

# The Boston Medical and Surgical Journal

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## Original Articles.

### ALVEOLITIS DENTALIS. INTERSTITIAL GINGIVITIS, SO-CALLED PYORRHEA ALVEOLARIS, LOCALIZED CATARRHAL STOMATITIS. SUGGESTIONS AS TO ITS CAUSE AND ITS TREATMENT.\*

By JOHN J. McNULTY, M.D., New York, N. Y.

ALVEOLITIS dentalis—interstitial gingivitis—is an error of metabolism focusing its expression in and about the alveolus dentalis. Being basically a nutritional disease its treatment should be systemic, supported coöperatively with necessary and proper surgical technique—thorough instrumentation.

Alveolitis dentalis—interstitial gingivitis—is, in the light of present knowledge, due to the same cause that induces irritation, inflammation and suppuration in other tissues of the animal organism. The cause is now believed to be lowering of "concentration and velocity of reaction" of the body auto-protective mechanism; that is, internal secretions and enzymes insufficiency, or hypoection of the pituitary, thyroid, suprarenals, gonads, and the enzyme cycle.

Nutritionally considered, there would not occur interstitial gingivitis, ultimating in a pus flow (pyorrhea) and loss of tissue, if the structural

tissues were not lowered in resistance. Physiologic tissue resistance is, in the light of present understanding, due to normal supply and normal rate of reaction of the associated activities of internal secretions and enzymes constituting the "body auto-protective mechanism."

Alveolitis dentalis—so-called "pyorrhea alveolaris"—is an error of metabolism and can be met satisfactorily only when treated as such.

"All the protective substances which are involved in the cure of disease are to be regarded as produced by the internal secretions."—*Sir Almroth E. Wright.*

"The loss of the internal secretions balance is written large in the morbid phenomena of the human body, and its restoration forms a main principle of modern therapy."—*Leonard Williams.*

Alveolitis dentalis follows the same pathologic process that occurs in other surface tissues; that is, when a certain lowered state of resistance occurs, invasive and offensive hosts find an inviting matrix in which to perform their morbid and destructive drama. The "organism of pyorrhea," "the characteristic flora" of pyorrhea, are incidents of the condition, not cause. The micro-organisms supposed to cause interstitial gingivitis, ultimating in pyorrhea, are only invasive, dominant where normal tissue resistance is sufficiently lowered—sub-normal. This

\* Read before the Associated Physicians of Long Island, N. Y., Jan. 25, 1919.

lowered state, we repeat, is, in the light of present knowledge, the result or effect of lowered "concentration and velocity of reaction" of the internal secretions and enzymes constituting the "body auto-protective mechanism."

The words, "bacteria," "amoeba," "cocci," and "bacilli"—"endameba buccalis," "mouth flora," are not to be considered as cause but rather as incidents by the informed and practical physiologic therapist.

"... Every infectious disease is the result of a struggle between two variable factors—the pathogenic powers of the bacteria on the one hand, and the resistance of the subject on the other, each of these again modified by variations in the conditions under which the struggle takes place."—*Hans Zinsser, M.D., 1918.*

"... susceptibility or resistance of the individual may be determined by variations in the physiological state or by the environmental conditions under which the two factors—invasor and invaded—are brought together."—*Zinsser.*

"... the animal disposes normally over a defensive mechanism of considerable efficiency."—*Zinsser.*

The service work of the physician is understandingly to coöperate with the "defensive mechanism"—with the auto-protective mechanism. The most efficient means at present at our command are properly associated internal secretions and enzymes that correct physiologic insufficiencies.

"Experiments were made in the human mouth on gums which had been neglected as well as on healthy gums. . . . His experiments tend to show that, when animals and man are healthy, the tissues resist infection; but when diseased, infection results."—*Talbot.*

"Competent bacteriologists were unable to find a micro-organism not found in pus from other infected tissues."—*Talbot.*

"While pyorrhea alveolaris literally means a discharge of pus from the alveolus, the simplest definition of its pathogenic condition commonly accepted under the term would be that it represents a diseased condition of the peridental region due to impaired nutrition."—*Dr. Rhein.*

"The recognition of the vast importance of the secretory function of the group of glandular organs constitutes one of the finest achievements of modern experimental physiology. It more particularly includes the physiology of the

thyroid gland—the pituitary gland, the suprarenal capsules."—*L. Luciani.*

The sequence, if there be one, of alveolitis dentalis to so-called "Uric Acid Diathesis," "Rheumatism," or other blanket term to cover our ignorance, is not a sequence at all, but a concurrence—both morbid phenomena being due to the one and same cause, that is, autotoxemia largely due to sub-conversion of ingested food and possibly "suboxidation of waste." This sub-conversion and "suboxidation" ultimating in autotoxemia, is only rationally met through the administration of properly associated internal secretions and enzymes—properly associated qualitatively and quantitatively.

"As a complication of the disease in its secondary stages there can be no doubt of the action of micro-organisms. But Sudduth does not feel justified in conceding to them a position of specificity."—*Talbot.*

"... there is no ground yet adduced for believing the disease to be specifically infectious and due to a germ of a specific nature; that in it the germ infection occurs as a consequence of existing disease, and is not the cause of the morbid condition, but one of its stages."—*Talbot.*

"What John Fitzgerald calls the gingival organs, possesses, as he remarks, in common with some other tissues of the body, the power of electing and excreting poisonous substances from the blood. Some of these cause hyperemia, or even inflammation, in their passage."—*Talbot.*

Dr. Robin Adair writes: "... there are no systemic reasons for the cause of pyorrhea other than those which may predispose to any disease." It is just this "cause" that "predisposes" that causes "pyorrhea"—alveolitis dentalis. Alveolitis dentalis is peridental irritation, inflammation, and possible suppuration due to tissue enfeeblement resulting from an insufficient reaction of internal secretions and enzymes. A tissue bathed with toxic influences—circulating blood surcharged with toxic radicals—is the cause, the systemic cause, and the logical and helpful treatment is the administration of properly associated internal secretions and enzymes.

Diet is an essential factor in the treatment of alveolitis dentalis; whole wheat, whole barley, oat meal should be insisted upon when cereals are eaten. Food is a tripod consisting of a

protein, a carbohydrate and a fat leg,—detach one leg of the tripod and it falls.

"Accessory food substances called by Funk, *vitamines*." "The varied rôles in the maintenance of normal nutrition and the promotion of normal growth in animals and man are rapidly being defined, so that we now have a group of diseases which are generally recognized as resulting from deficiency of one or another of these accessory substances."—Editorial, *N. Y. Med. Journal*, Jan. 13, 1917.

"The study of the *vitamines* is proceeding apace and our knowledge on the subject is forming into definite shape. According to Dr. Marion D. Hise, who wrote concerning the effect of *vitamines* on body growth, the deficiency diseases owing presumably to the absence or to the lack of *vitamines* in the diet."—Editorial *N. Y. Med. Journal*, Sept. 16, 1916.

Cereal food, whole cereal food, is rich in what are now termed *vitamines* and saline nutrients—nutrient salts. These *vitamines* and nutrient salts are not only necessary as food, *per se*, but as catalysts to the process of food analysis, synthesis, and utilization.

Saline balance is essential to body well-being—physiologic equilibrium; and a disturbance in the salt balance may be an important contributing causative factor in the nutritional error called interstitial gingivitis. We are in the habit of thinking and speaking of calcium deficiency or calcium disbalance, but it is probable that other resident salts, particularly potassium salts, have much to do with physiologic equilibrium—the rôle of the potassium salts is to aid in the oxidation and elimination of protein toxic radicals and waste.

Whole cereals are rich in available nutrient salts.

It is our opinion that available salts—nutrient salts in a condition for physiologic appropriation—are made available only through physiologic analysis and synthesis;—that the administration of these salts from without, as inorganic salts, are not subject to appropriation—assimilation. The administration of calcium salts does not effect the quantitative utilization of calcium except to the extent that they, as catalysts, activate or aid organic synthesis of available nutrient calcium. Therefore, calcium, or any of the proximate salts essential to body well-being should be supplied through proper food

Surgical technique or instrumentation is an important and essential part of the treatment of alveolitis dentalis. This technical instrumentation is solely the province of the properly equipped and efficient dentist. However, in the treatment of this error of metabolism, there is no separating line between the physician and dentist, as its successful management depends on the efficient coöperation of both physician and dentist.

#### SUMMARY.

Alveolitis dentalis, "pyorrhea alveolaris," being the result of internal secretions and enzymes insufficiency, the scientific, logical and effective treatment is the administration of properly associated internal secretions and enzymes.

To aid nature more completely to digest (hydrolyze and convert) the intaken food into available nutriment, properly associated digestive ferments should be given with the food.

#### TYPES OF TUBO-OVARIAN SUPPURATION AND THEIR TREATMENT.\*

By ROBERT M. GREEN, M.D., BOSTON.

[From the Gynecological Clinic of the Boston City Hospital.]

It may seem that the treatment of tubo-ovarian suppuration is sufficiently classic to deserve no further discussion. From personal observation, however, especially of some recent cases, I have been led to believe that suppurative disease of the tubes and ovaries may conveniently be divided into a series of clinical types, in accordance with which the treatment is most easily determined. It is with the differentiation, description and illustration of these types, and their therapeutic surgical classification, that this paper is concerned.

The most elaborate recent classification of tubo-ovarian infections is that of Forgue and Massabian.<sup>1</sup> This seems, however, unnecessarily complex, and in practice I have endeavored to simplify it. Perhaps the most comprehensive brief consideration of pelvic inflammation is that presented by Lockhart<sup>2</sup> before the Canadian Medical Association in 1914. From his opinion with regard to the desirability of the surgical drainage of pelvic suppuration from below, however, I feel obliged to dissent.

Infections of the Fallopian tubes and ovaries may best be grouped according to the causative agents, of which the commonest three are the gonococcus, the streptococcus, and the tubercle bacillus. Infections with the tubercle

\* Read before the Newton Medical Club on May 14, 1917.

bacillus occur usually in young multiparas, single or married. They are not primary, but are secondary to some focus, often small, obscure, or undetected, elsewhere in the body; are generally bilateral; produce a relatively large amount of pain and tenderness in proportion to the extent of inflammatory process; are associated with low white count and hectic fever; and as a rule do not suppurate, but terminate either by cicatrization with diffuse adhesions, or by miliary, peritoneal and general extension and death. With these rarely suppurative tuberculous infections of the tubes and ovaries, therefore, there is little occasion for this paper to deal further. That suppurative of tuberculous tubo-ovarian infections may occur, however, and may lead to important complications of diagnosis and to serious or fatal results, is evidenced by the following case:

**CASE 1.** M. R., a single girl of 17, entered the Boston City Hospital (Gyn. 356341) on February 21, 1917, complaining of sharp attacks of pain in the right lower abdominal quadrant for the past three weeks. Her former health had been always good. Her catamenia, previously regular since their onset five years before, were then two weeks overdue. Her temperature was normal, her white count 8,800. Her lungs were clear, her physical examination normal except for the pelvis. The vulvar introitus was stretched so easily to admit two fingers; the hymen had been ruptured; the cervix was intact but soft; the uterus was of normal size and adherent to a tender, doughy mass, the size of an orange, occupying the right vault; the left appendages were thickened and tender; there was no flowing. The case was kept under observation for a week, during which the temperature and white count remained normal, and the patient continued to have intermittent attacks of pelvic pain. In view of the absence of pyrexia and leucocytosis, the presumptive evidence of coitus, the amenorrhoea, and the paroxysms of pain, a diagnosis was made of ectopic pregnancy near the distal end of the right tube (accounting for the non-enlargement of the uterus and the absence of irregular flow), with tubal abortion and the formation of a pelvic hematocoele. Laparotomy was advised and accepted.

At operation, on February 28, 1917, bilateral tuberculous tubo-ovarian masses were found, densely adherent and suppurating. Both tubes and both ovaries were removed with difficulty, and in the process a considerable amount of cheesy, tuberculous pus was spilled into the pelvic cavity. The appendix, involved in the right mass, was also removed, the uterus suspended, and the abdominal incision closed in layers about a single cigarette wick placed into the posterior cul-de-sac. From that time the patient ran a constant hectic fever from 100° to 103°. The abdominal wound broke down, was extremely tender, and discharged profusely. On March 23 a secondary abscess was opened in the right groin, and this sinus soon established a deep connection with the median wound. Both wounds became secondarily infected with bacillus pyocyaneus, but under daily irrigation with weak iodine solution and later with chlorinated soda, they gradually cleared up and became cleanly granulating. On April 25 the temperature became normal and the patient began to sit up. Ten days

later she developed a general miliary tuberculosis, and in a fortnight she died.

Tubo-ovarian infections with the streptococcus almost always originate at the time of abortion or labor. They are often unilateral; produce a diffuse, extensive cellulitis of the peri-tubal, peri-ovarian, and peri-metrial tissues; are associated with high white count and pyrexia, and frequently with repeated chills; and tend to terminate either by suppuration, by resolution without permanent damage to the tube, or by generalized extension and death.

Gonorrheal genital infections in adults are venereal in origin. They generally involve the tubes, often the left first, ultimately both as a rule; produce clubbing and occlusion or stenosis of the tube; are associated with moderate white count and irregular pyrexia; and tend to terminate by suppuration, after a long period of recurrent inflammatory exacerbations, by recovery with permanent functional damage of the tube, and multiple pelvic adhesions.

Whether gonorrheal or streptococcal in origin, tubo-ovarian suppuration leads either to the accumulation of pus in the lumen of the tube, whence it may drain constantly or periodically through the uterus, or to the formation in the surrounding cellular tissues of a true pelvic abscess, walled-off above by intestinal adhesions, which has a tendency to point in one of several directions. When drainage through the uterus is periodic, the periods of accumulation are marked by attacks of severe pain, the well-known tubal colic. When there is no natural drainage, and pus accumulates in the tube or in a true abscess, the clinical surgical problem resolves itself into the question whether the pus-mass can be reached only trans-peritoneally or whether it is accessible by some other route.

It is commonly considered that the chief or only path by which pelvic pus from tubo-ovarian suppuration seeks to escape is through the posterior vaginal cul-de-sac or pouch of Douglas; and indeed this is its most frequent course. Not infrequently, however, deep pus either in or around the tube may be reached surgically by this route before definite fluctuation is obtained. In my experience the most useful early indications of the presence of such pus are:

- (1) Persistent high temperature and white count in spite of the usually successful palliative measures of ice, elevation, and catharsis.
- (2) Increasingly acute tenderness in the mass of exudate behind the uterus.
- (3) Edema of the recto-vaginal wall.
- (4) Ballooning of the rectum.

When any three of these signs are present, I believe it is often wiser to go in search of pus and establish drainage through the posterior cul-de-sac, without waiting for positive fluctuation, than by such delay to allow the patient to suffer from protracted toxic absorption. In pur-



suance of the latter policy I have seen the golden opportunity for such drainage lost, the pus once accessible from below cease to be so, and the inflammatory process, unable to establish its downward exit, extend upward into an iliac and pylephlebitis terminating in death.

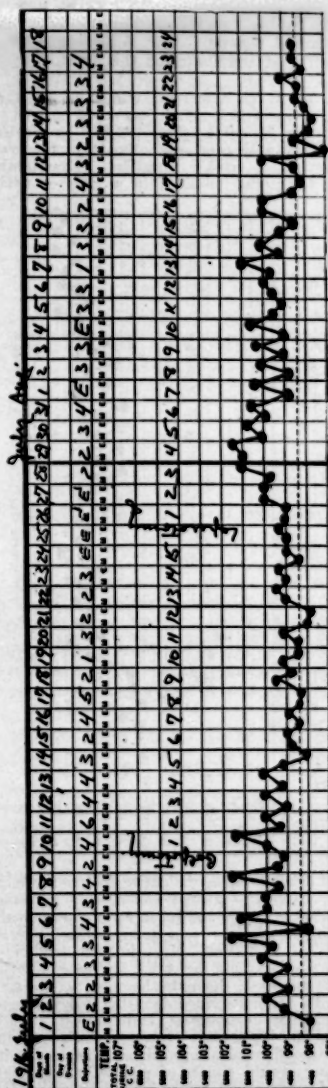
The risk of posterior colpotomy is small, its disadvantage in the formation of subsequent adhesions is negligible in face of the immediate and beneficial relief obtained from toxemia and pyrexia. After drainage of the abscess or tube, the inflammatory process generally subsides sufficiently to permit subsequent, safe laparotomy, or may even recover without sufficient residua to demand further surgical intervention. Occasionally the offending tube and ovary may prolapse into the abscess cavity and can be removed from below. Whatever the subsequent procedure, early posterior colpotomy, upon warrantable conviction of the presence of accessible tubo-ovarian pus, generally minimizes the disease danger, often shortens convalescence, and occasionally makes further surgery unnecessary.

The following is an illustrative case of this type of tubo-ovarian suppuration as treated by this method:

CASE 2. R. A. G., an unmarried girl of 20, without obstetric history, entered the Boston City Hospital (Gyn. 286-35) on July 1, 1916, with complaint of pain in the right lower abdominal quadrant of six days' duration. Vaginal examination showed acute tenderness and resistance in the right vault, and an elongated, sausage-shaped mass in the left. The patient had a white count rising from 7,800 to 12,000, and ran a fever shown in the accompanying chart. A smear from the vaginal discharge showed the presence of gonococci. Under observation and palliative treatment, the tenderness in the right and posterior vaults increased, and a zone of brawny edema began to extend down the recto-vaginal septum. The rectum was ballooned. On July 9, a posterior colpotomy incision yielded a considerable amount of pus. There was marked relief of symptoms of gradual defervescence. After a fortnight of normal temperature, when the vaginal sinus was practically closed, laparotomy was done for the resection of both tubes, since it was felt and found that they were so far damaged as to be not only useless but a source of future probable recrudescence attacks. The distal half of each tube was removed, the normal-sized patulous proximal half being left patent. The ovaries were but little involved in the inflammatory process and were left intact. The appendix was removed and the uterus suspended. The patient made a normal convalescence and was discharged well on August 18.

Merely because tubo-ovarian suppuration usually points to the posterior cul-de-sac, however, should be no reason or excuse for overlooking or disregarding the other avenues by which it may seek to escape. The pelvic abscess which accumulates in the pouch of Douglas may equally well point or be evacuated through the rectum as through the vagina. Where the for-

mer route is that naturally sought by the accumulating pus, brawny induration in the pos-



Case 2.

terior cul-de-sac may persist, while fluctuation becomes easily demonstrable by rectum. For this reason, rectal or combined examination with the fore and middle fingers should never be

omitted; since even in cases where rectal fluctuation has not yet appeared, the experienced finger can detect whether deep-seated pus can be more readily reached in front or behind the recto-vaginal septum. The following case is illustrative of conditions of this type.

CASE 3. A. T., a married woman of 36, three months advanced in her first pregnancy, entered the Boston City Hospital (Gyn. 262-82) on September 19, 1916, with complaint of pain in the lower abdomen of a week's duration. Examination showed the uterus imbedded in a mass of tender

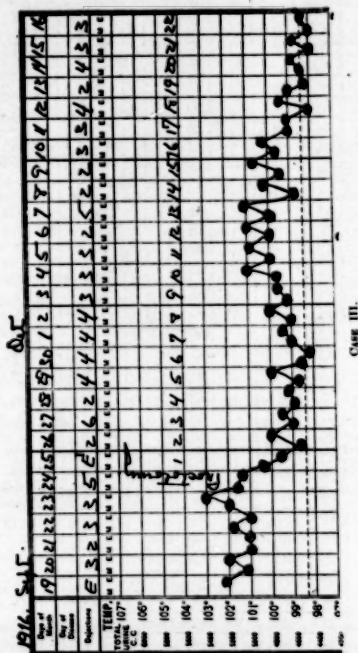
tive treatment the inflammatory process terminated by resolution; the uterus became free and rose into good position; and the patient was discharged still pregnant on October 19, 1916.

The chief objection against rectal drainage has been the risk of secondary colon infection of the abscess cavity thus opened. Inasmuch as there must be dense intestinal adhesions roofing over such a cavity, it does not appear that this is a serious or deterrent objection to the employment of this mode of drainage, which has the further advantage of avoiding unpleasant discharge for the patient and of minimizing subsequent adhesions to the vaginal vault. Indeed whenever nature shows an impending predilection for the rectal route of drainage, it seems advisable that this channel should receive surgical preference and option.\*

A third route by which tubo-ovarian sup-puration may seek spontaneously to point is through the inguinal canal. Naturally this occurs when the inflammatory mass, instead of prolapsing and becoming adherent in the pouch of Douglas, adheres antero-laterally to the abdominal wall. Under such circumstances pelvic induration and tenderness are replaced by pain and deep swelling in the groin, extending toward the flank. The phenomena in such a case are illustrated by the following histories:

CASE 4. M. P., an Armenian tertigravida of 31, entered the Boston City Hospital (Gyn. 251-1) on May 1, 1916, and was delivered the same day of a 7-months' baby, which died an hour later. The patient had a septic convalescence, with general pelvic cellulitis centering about the right appendages. On June 2 the dense, indurated mass of exudate behind the uterus was aspirated with a trocar, but no pus obtained. Three days later definite induration with deep fluctuation developed along the line of the right inguinal canal. Under ether a dissection of the canal was made, as in the operation for hernia. On retracting the lower border of the internal oblique muscle, an abscess cavity pointing through the internal ring and connected with the right appendages was opened with evacuation of several ounces of pus. The patient's symptoms rapidly ameliorated, and three weeks later she was discharged with a sluggishly healing sinus in the groin, and a pelvis clear except for slight residual adhesions and thickening in the posterior vault.

CASE 5. R. D., 24 years of age, and five years married, had had one instrumental and one normal delivery at term; and a miscarriage at seven months, six weeks before her entrance to the Boston City Hospital (Gyn. 255-201) on June 26, 1916. She was said to have had fever and pelvic pain continuously since the twelfth day of this latest puerperium; and on admission had a temperature of 103°, and a white count of 25,000. Her uterus was involved in a mass of tender plastic exudate extending into the right vault; and in the left vault was a palpable indurated mass, the size of a lemon. This diffuse pelvic cellulitis, presumably originating from infection at the time of her miscarriage, or from the flaring up of a pre-existent



resistant exudate filling the entire posterior portion of the pelvis. The patient had a white count of from 12,000 to 14,000 and ran a fever shown in the accompanying chart, which, under palliative treatment, failed to decline. Meantime the tenderness in the posterior vault increased, but board-like induration persisted. Rectally, however, on September 24, it was determined that the bulging mass impinged more extensively and seemed slightly softer on the bowel side. Incision and blunt dissection into this mass opened an abscess cavity containing several ounces of pus, with immediate relief of pyrexia and subjective symptoms. After a period of nearly normal temperature, during which there was free rectal drainage, the patient's fever returned in slight degree. Examination, however, showed the mass of exudate much diminished in size and in tenderness. Under continued deple-

\* See footnote, page 182.

inflammation at that time, was treated by the usual methods of elevation, applications of ice to the lower abdomen, and depletive saline catharsis. Under these palliative measures, the exudate in the right vault resolved, leaving the uterus freely movable. The temperature, however, continued irregular, rising often as high as  $104^{\circ}$ , and the white count rose to 37,900 and 31,900. Simultaneously the mass in the left pelvic vault became anteriorly adherent, with tenderness and induration extending into the left flank. There was no vaginal bulging or fluctuation. On July 23, 1916, under ether, a high inguinal incision was made in the left lower abdominal quadrant, and a dissection of the inguinal canal carefully carried down to the transversalis fascia. On breaking through this fascia an abscess cavity was entered, from which eight ounces of greenish pus were evacuated, and which was drained by a cigarette wick. Pathological report of a culture from this pus showed the presence of streptococcus and staphylococcus. The patient made a slow but uneventful convalescence with complete defervescence in three weeks, and on September 1 was discharged with a pelvis nearly free from exudate, slight thickening high in the left vaginal vault, and a small sinus in the left groin at the site of the operative wound.

A rare fourth type, which may be regarded as a variety of the third, is that in which the suppuration points through the linea alba, usually in the mid-hypogastrium. In this case a shirt-stud sort of abscess may be formed, the pus spreading out in two layers, above and below the fascia, with a small channel of communication between. The following case illustrates this type:

CASE 6 D. P., an Irish multipara of 40, who had had eight full-term labors and three miscarriages in 14 years, entered the Boston City Hospital (Gyn. 187-61) on Dec. 28, 1912, with complaint of pain in the lower abdomen. Her temperature was  $100^{\circ}$ , her white count 25,600. Physical examination was normal, except for the presence of tender induration in the median hypogastric region. By vagina this area was felt to be continuous with a tender mass, size of an orange, occupying the left vault. After several days of observation, with persistent fever under palliative treatment, deep fluctuation was felt in the hypogastrium; and a median incision opened a shirt-stud cavity, communicating with a left tubo-ovarian abscess containing 8 oz. of pus.

The patient's temperature fell almost immediately to normal and after a few days of fairly profuse drainage the abscess cavity closed by granulation and the patient was discharged symptomatically well on the 23rd day with a residual non-tender mass of exudate in the left vault.

#### CONCLUSIONS.

In conclusion it may be said, by way of summary of the personal opinions here illustrated, that

(1) Tubo-ovarian suppurations may be classified into definite clinical types, of which five have been illustrated, according to the infecting organism and the route of natural escape pursued by the accumulating pus.

(2) Treatment should be determined in accordance with the type of case, palliative depletion being always first employed.

(3) When such palliation fails within a few days to effect relief of symptoms and subsidence of fever, deep suppurative should be suspected, even in the absence of fluctuation; and, with reasonable assurance of its presence, should be explored through the appropriate route.

(4) The likelihood of rectal\* or inguinal pointing should not be overlooked, when the more customary vaginal pointing fails to occur.

(5) Rectal or combined recto-vaginal examination is of value in determining by which route a given pus localization in the posterior pelvis may best be approached.

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- \*Fergus and Mamebani: *Gynecologie*, Vol. xxxiv, in Denter and Delbet's *Nouveau Traité de Chirurgie*, Paris, 1916, p. 575.  
 \*Leclercq: *Jour. Obst. and Gyn.*, xxi, 144, September, 1914.  
 \*Rieder: *Ann. Jour. Obst.*, Vol. lxxiv, p. 935.

\*Since this was written, Rieder\* has discussed the same subject in a paper on "Drainage for Pus Conditions in the Pelvis during Pregnancy," emphasizing the value of the rectal route of approach. Under these conditions he employs rubber tube drainage, which I have not believed necessary and have feared might favor ascending colon infection. It is my custom to drain colostomy incisions for a few days with a gauze wick to prevent premature closure. Precautionary incisions, in my experience, do not require any wick or tube to ensure adequate drainage.

## AN EXTENSION FRACTURE FRAME.

By ALBERT S. HYMAN, A.B., M.D., BOSTON.

House Surgeon, Boston City Hospital.

THE general use and the wide-spread popularity of the frame devised by Dr. Edward H. Bradford have clearly shown that this type of apparatus is apparently the best for the transportation and care of patients whose condition prevents any change in the position of the body or its parts.

The Bradford frame has thus become almost indispensable in the treatment of fractures of the femur, pelvis, and spine. Of the three, fractures of the femur are undoubtedly the most common, and it is for the treatment of fractured femurs that the following modification of the Bradford frame has been devised and used successfully at the Boston City Hospital.

The simplicity of the apparatus is perhaps the chief reason for its description here. It permits a complicated and awkward apparatus to resolve itself into a modification of the Bradford frame without sacrificing the advantages of the latter. The apparatus has been designed primarily for fractures of the femur requiring extension or traction.

In most hospitals such an apparatus consists of a Bradford frame, possibly a T-splint that is connected to the latter, and a Buck's extension which is fastened to the foot of the bed, with its rope, pulley, and weights. It requires no little



FIG. 1.

time to set the fracture up in this equipment. Its purpose is, of course, to secure the best alignment of the fragments of the fractured femur.

The patient is placed upon a Bradford frame in order that he may be raised from the bed to be bathed or to use the bed-pan, but in this very act of raising the frame, the alignment which has been secured by the extension now is destroyed. This occurs again every time that the bed is made, and in short, any condition which changes the relative position of the frame and the Buck's extension at the foot of the bed will change the position of the fractured ends of the bone and will cause delay or poor union.

In hospitals, it is often desirable to obtain x-ray pictures of fractured femurs in apparatus. To do this successfully the entire bed must be transported to the x-ray department, which in most cases is impossible. The alternative is to remove the extension and carry the patient on the Bradford to the x-ray department. A picture is then taken without the extension; or in rare cases futile attempts at traction are made with one hand while the operator or assistant takes the exposure with the other. Obviously, pictures taken in this way are of little value, since they do not tell the story that one wishes to know, i.e., how the fracture looks when it is in its proper apparatus.

In attempting to overcome these faults of the Buck's extension apparatus as it is usually employed, we have devised a simple modification of the Bradford frame. As the photographs indicate, the modification consists of an upright frame attached to the bottom of the Bradford. To this upright is connected a sliding bar which supports an adjustable pulley carriage.

The frame is built essentially like a Bradford



FIG. 2.

of  $\frac{7}{8}$ " galvanized iron pipe, 6 feet long and 2 feet wide. The bottom has two 3-way elbow joints which support the uprights. The latter are 18" high and are connected above by a transverse bar.

The sliding bar moves laterally, and is made of oak, measuring 20" x 4" x  $1\frac{1}{4}$ ". It contains a 16" x  $\frac{1}{2}$ " slot in which slides a pulley carriage adjustable at any height by a set screw. The sliding bar is fastened to the top and bottom of the upright with an adjustable brace. By this arrangement any point of traction can be secured within an area measuring 20" x 16".

With the extension apparatus thus applied directly to the Bradford frame, it becomes possible to move the patient in bed from place to place without the slightest possible change in the position of the fragments of the fractured bone. Good x-ray pictures can then be taken.

There are other lesser advantages in this apparatus. It does away with the 'hood' that is used to protect the feet of the patient from the weight of the bed clothes—the upright itself acts as a hood upon which the sheets can be fastened.

The apparatus can be used in the treatment of septic conditions of the leg or foot which require elevation and traction.

Counter-extension is easily obtained by placing suitable blocks under the bottom of the frame. The foot of the bed need not be raised.

In this paper we have attempted to describe a modification of the Bradford frame which, because of its simplicity, we believe will supplant the Buck's extension apparatus now in vogue. For his numerous helpful suggestions we owe many thanks to Dr. John Bapat Blake, Surgeon-in-Chief of the First Surgical Service, Boston City Hospital.



## Selected Papers.

## INFLUENZA.\*

By GEORGE PEACOCKE, M.D., F.R.C.P.I., DUBLIN, IRE.  
*Physician, Adelaide Hospital and to King George V.  
Hospital Dublin.*

My first and very pleasant duty at this our opening meeting for the present session is to thank you for the honor you have conferred on me by electing me as your president for the coming year. I am deeply sensible of the honor and trust that during my term of office I shall preserve the worthy traditions handed down to me by my predecessors in the Chair.

In my work of the Academy I have taken a great interest since I was elected a Fellow, nearly 25 years ago, and on the Council of this Section I have served without a break for the past 16 years. During that time, but especially of late years, I have noticed a growing decline in the interest taken by the Fellows in the sectional meetings. Our late president, Dr. Drury, discussed this subject very fully in his inaugural address. It is, therefore, unnecessary for me to say more on the matter. I fully endorse all that he said on that occasion.

During the present session it has been decided, on the recommendation of the General Council, to hold fewer sectional meetings. In the medical section there will be only four meetings, instead of six, our usual number. I hope the meetings will be well attended, that our secretary will not find it difficult to obtain sufficient and suitable material for them, and that the discussions will be helpful and illuminating.

We are met to discuss the nature and symptoms of the great pandemic which during the past few weeks has swept over the entire world and exacted a heavy toll of sickness and death. It is, I think, generally held that the causal organism of the disease is the *Bacillus influenzae*, but many consider that some as yet undiscovered virus is responsible for the present epidemic.

When uncomplicated, influenza is not a malady that often causes death. The high mortality of the present epidemic is due almost entirely to the frequency with which cases have become secondarily infected with pneumococci

and streptococci—a striking feature of the present visitation.

The public has been unduly alarmed by the writings in the press, and something akin to a panic has resulted. The death-rate, no doubt, is a high one, but if the case mortality could be estimated it would not be found to be of very formidable dimensions.

The figures for a large hospital with which I am connected, and to which the milder cases are not admitted, are, for the month of October, 497 admissions, with 32 deaths, a percentage of 6.5. In my own private practice the rate is lower—a generous estimate would not amount to a death-rate of 2 per cent.

The symptoms presented by the disease are many and various. In the severe cases, especially those complicated by pulmonary affections, I have noticed the great frequency with which cyanosis occurs—the lividity appearing early, and persisting, often for many days, until, as is usual in these cases, a fatal termination ensues.

Laryngitis is extremely common, giving rise to considerable pain over the larynx, a distressing brassy cough and hoarseness, amounting in many cases to complete loss of voice.

Delirium, either of a low muttering type or more violent in character, is met with in many cases, and often persists for some days after the temperature has become normal. Mania, following the pyrexial period, and lasting for ten days, I have seen in one case.

The temperature chart is in many cases a fallacious guide. Some of the most severe cases I have seen have had only a moderate degree of pyrexia. A sign full of omen is a fall of temperature without any corresponding fall in the pulse and respiratory rates.

The condition of the tongue I regard as a helpful sign in prognosis. When moist, and not more than lightly furred, the case is, as a rule, progressing favorably; when thickly coated, and especially when dry, the chances of recovery are small.

Vomiting has been a distressing and sometimes alarming symptom in many cases.

Albuminuria to a slight degree is common in the acute stage; when abundant, the outlook is not favorable. Symptoms of a definite acute nephritis I have not observed. In one case, which terminated fatally, the urine contained a large amount of blood. Examination showed it was not hematuria, but hemoglobinuria.

\* Reprinted from the Medical Press of Jan. 1, 1919, being the author's presidential address before the Medical Section of the Dublin Academy.

The pulmonary signs are extremely varied. Bronchitis or broncho-pneumonia is present in a large proportion of cases. Typical physical signs of a true fibrinous pneumonia are rare, even when, as is frequently the case, the sputum is rusty, and the general symptoms are those associated with the disease.

In the early stages a pulse of 80 with a temperature of  $102^{\circ}$  to  $103^{\circ}$  is not uncommon, and in favorable cases this comparatively slow pulse-rate may continue throughout the illness. A daily increasing pulse-rate is a most unfavorable sign.

During convalescence the pulse-rate becomes extremely slow. I have on more than one occasion found the rate to be only 40 per minute.

Jaundice I have seen in a few cases; it has been present in both fatal and non-fatal cases. The tendency to hemorrhages has been noted by all observers as a common complication. Epistaxis is the most frequent form, and occurs in severe and mild cases alike. Of more serious import is bleeding from the mouth and gums. One case of cerebral hemorrhage has occurred in my practice, in a young man, producing complete left-sided hemiplegia. He is now recovering. Otitis media occurs with sufficient frequency to merit recognition. It differs in no way from the affection, as it occurs in many of the infectious fevers.

Tonsillitis is not common—quinsy I have seen in a few cases.

Unilateral parotitis I saw in one man. The condition arose only a few days before death, and was associated with an acutely septic condition of the mouth.

I have not observed any case of influenzal meningitis; possibly in some of the acute cases with marked delirium I have overlooked its presence.

I have not attempted to classify the varying types of this protean disease, but there is one outstanding form which, with the dramatic suddenness that death ensues, deserves special mention. A patient suffering at the time from a typical severe attack, suddenly becomes alarmingly ill. Pain, often acute, is felt in the chest, the respirations become rapid, and breathing greatly embarrassed; a frothy bloody fluid is coughed up; delirium, rapidly passing into coma, ensues, and death may occur in a few hours after the onset of these acute symptoms. I have seen several such cases, but will refer to only one. A young woman, 24 years of age,

otherwise healthy, complained on a Wednesday night of feeling sick. Her temperature was slightly elevated. The next morning she was not so well, and fainted on getting out of bed. During the day her condition grew worse; she was removed to hospital, and when I saw her, at 7 P.M. on Thursday evening, she was dying. Râles were audible all over her chest; she was unconscious; her pulse was imperceptible, and she was coughing up fluid of the kind I have just described. She died at 10 P.M. the same evening.

As regards treatment, I have only to say I know of no specific. Salicylate of quinine is the drug I most employ as a routine. Aspirin appears to relieve the headache.

To keep the bowels free and to promote sleep are, I am sure, objects of great importance. Calomel I prefer as a purgative; trional or some preparation of opium for sleeplessness. Stimulants are required in most cases, and in some should be given freely.

The influenzal vaccine prepared in the laboratory of Trinity College I have used in some cases, but I cannot say I have noticed any particular effect from its use. Its value as a prophylactic is a burning question at the present time.

### Society Report.

#### TREATMENT OF TUMORS OF THE UPPER JAW WITH THE CAUTERY.\*

By JOSEPH COLT BLOODGOOD, BALTIMORE, MD.

THE employment of the cautery in the partial or complete removal of malignant tumors is an old method. My own experience during the past five years has demonstrated that we have much to learn as to the details of its application.

When we compare the results of operations for the removal of tumors of the upper jaw with the knife alone with the results of the removal of identical tumors with the cautery, we find that we have distinctly decreased the mortality, and when we have accomplished cures it has been with less mutilation. Whether the actual number of cures has been increased cannot be demonstrated at the present time.

The reduction in mortality is associated with

\* Abstract of paper read before the Southern Surgical Association at its 31st Annual Session, Baltimore, Dec. 18, 1918.

the employment of local anesthesia alone, or in combination with light chloroform general anesthesia.

In many instances it is safer to remove the disease involving the upper jaw in stages. It is remarkable how much can be done under local anesthesia alone. When a general anesthetic is necessary, chloroform in my experience, seems to meet the indications best. It does not interfere with the use of the cautery. It is the best anesthetic when operations are performed in the region of the oral cavity. It should never be pushed to complete narcosis. The patient has no memory of pain, and although he is so lightly under the influence of the anesthetic that all reflexes are active, he remains more or less quiet.

When chloroform is not pushed to complete narcosis the danger seems practically eliminated, and the operations can be repeated at intervals of three or four days. In some of my cases there have been as many as fourteen operations.

The surgeon should hold himself responsible for the anesthetic and direct its administration. In all of my cases the pulse and blood pressure are recorded every five or ten minutes. The chloroform is rarely administered longer than one hour. When the cautery, instead of the knife, is employed, the operation can be discontinued at any moment.

The duration of the operation and the number of operations largely depend upon the general condition of the patient and local extent of the neoplasm.

When the cautery is employed it is possible to remove the tumor piecemeal and to destroy from tumor tissue into the surrounding healthy tissue without danger of dissemination, while with the knife one must give the tumor tissue a wide margin and remove the entire mass *en bloc* at one operation.

In tumors involving the upper jaw the complete excision with the knife, when the disease is extensive, always sacrifices more healthy tissue than when the cautery is employed, and the danger of this single extensive removal with the knife is greater than the removal in stages by the cautery.

In the removal in stages with the cautery it is also possible to have a pretty positive microscopic control as an indication that enough has been done. One also learns quickly to distinguish granulation tissue in which there is no tumor tissue from that which still contains

tumor tissue by its gross appearance, which can be checked by the removal of a piece for microscopic study with the cautery.

The new growth should be attacked with the cautery from two points. One should burn the tissue at the border of the tumor. This not only destroys the infiltrating area, but excites in the healthy tissue beyond a granulation tissue which of itself is largely protective against secondary invasion, at least during the period of complete removal. The second attack should be upon the new growth itself, if possible, from the center out.

These two methods of attack are varied, according to the size of the neoplasm and its local growth, and the anatomical character of the surrounding uninvolved tissue.

I find that I am helped by a thorough knowledge of the character of the local growth and its microscopic appearance based upon a thorough study of similar cases recorded in the surgical pathological laboratory of the Johns Hopkins hospital.

Details of the method of attacking tumors of the upper jaw will be given in the completed paper with illustrations.

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### American Medical Biographies.

#### CHOVET, ABRAHAM (1704-1790).\*

Of the early life and education of Abraham Chovet nothing is known. On the back of the frame of a miniature in the possession of the Pennsylvania Hospital, Philadelphia, there is scratched, "Born May 25, 1704." Who his parents were, where he was born, and his nationality is not known. It is stated by Ruschenberger that the name "is not French, but an English patronymic; one of a class of two-syllable names ending in *et*, or *ett*, as Cobbet, Collet, Levett." Norris says he was a native of England. Chastelux gives England as his native country, and further states that "after studying medicine and surgery there, he went to France to improve himself under M. Winalow."

Some years since, the author of this sketch had an extensive correspondence with the late Sidney Young, F.S.A., past master of the Worship-

\* From the forthcoming "American Medical Biography," by Dr. Howard A. Kelly and Dr. Walter L. Burrage. Any important additions or corrections will be welcomed by the authors.

ful Company of Barbers of London, and author of "The Annals of the Barber Surgeons of London," in regard to Abraham Chovet; and from this correspondence and the above mentioned "Annals" the following facts were gleaned in regard to his early history and life in England.

February 5, 1734, Abraham Chovet (surgeon), who had been bound to Peter Gongoure le marque, a foreign brother of the Company of Barber-Surgeons, was examined for admittance to the Company. He passed the examination and was sworn a foreign brother of the Company. On August 6, 1734, he took up his freedom of the Company, and, after being sworn, took the livery and clothing of the Company. On August 15, 1734, he was chosen a demonstrator of anatomy.

It is to be noted that the term, "foreign," used above, does not mean a foreigner or alien in the modern acceptation of the word, but a surgeon who practised within the jurisdiction of the Company of Barber-Surgeons of London and was not "free" of the Company by patrimony, servitude, or redemption.

In one of the letters received from Sidney Young, he suggests that when Chovet, on the sixth day of August, 1734, "came into our Guild and took up his 'freedom' by redemption, and then the higher grade of the livery," he probably did so "with the knowledge that on the 15th of the same month he was to be chosen demonstrator of anatomy and it was considered desirable that such an important office should be held by a liveryman and not by a mere 'F. B.'"

At this time Chovet was 30 years of age; but from the date of his birth until February 5, 1734, nothing can be learned in regard to him. That he must have given lectures on anatomy somewhere previous to his appointment in the Company of Barber-Surgeons is shown by his having issued, in 1732, at London, "A Syllabus or Index of All the Parts that Enter the Composition of the Human Body." In this he describes models which he has made of wax, and natural and artificial preparations sufficient to give a complete course in anatomy; he also was familiar with the method of making corrosion preparations. He had the true anatomical spirit and he retained it during his entire life.

Not only was Chovet an anatomist, but it is quite probable that he was a surgeon of considerable eminence during his residence in London, for he resided in Leicester Square, at that time the fashionable locality for surgeons with a large

practice. This square was later noted as being the residence of another anatomist and surgeon, John Hunter.

In 1736, Chovet resigned his position in the Company of Barber-Surgeons; his name appears in the list of Liverymen for 1740, but not afterwards. Sidney Young, in one of his letters said, "this is presumptive evidence that he was dead before the list for the year 1741 was made up." Such, however, was not the case.

Just why Chovet resigned as demonstrator in the Company of the Barber-Surgeons and later left London is unknown. In his letter to the Company, resigning his position, he mentions "his other business." As he remained in London some four more years it may refer to his extensive surgical practice. S. Weir Mitchell relates the following: "Dr. Physick told my father that, while living in London, Chovet tried to save a too adventurous gentleman about to be hanged for highway robbery, by opening the trachea before the hangman operated. The patient was rapidly removed after the execution, and is said to have spoken. A queer tale, and doubtful, but worth the telling. The government is said to have lacked due appreciation of this valuable experiment, and Chovet brought his queer Vol-tarian visage to America."

Neither Sidney Young nor D'Arcy Power, F.R.C.S., to whom the author wrote asking for confirmation of the story, could find any ground for the story, and Chovet did not come direct to America; for Chastellux (*The Universal Asylum and Columbian Magazine* for 1790) and Norris state that he spent some years in the Barbadoes, and afterwards went to Jamaica.

During these wanderings Chovet did not lose his interest in anatomy. Chastellux relates that during the war of 1774 a prize was brought into Barbadoes with a large quantity of wax in the cargo. Chovet improved the opportunity and made a considerable number of anatomical models. The date of his leaving Barbadoes and of his arrival in Jamaica are not known; but in the *Gentleman's Magazine* for the month of May, 1759, under the promotions for that year, appears the following: "Abra. Chovet, Esq., surgeon of Kingston in Jamaica, a Dr. of physick." In the list of M.D.'s conferred by Oxford, Chovet's name does not appear, and there is no list of Cambridge graduates or of the M.D.'s granted by the Archbishop of Canterbury. We are, therefore, ignorant of the source of this degree. If the story related by S. Weir Mitchell



be true it seems strange that this degree should have been conferred on Chovet.

In order to escape an impending insurrection of the slaves, Chovet, with his wife and widowed daughter, fled from Jamaica and came to Philadelphia. The date of his arrival is uncertain. In his obituary notice in the *Universal Asylum and Columbian Magazine* for March, 1790, it is given as 1770; Norris gives 1774 as the date, but it seems probable that the earlier date is the correct one.

Shortly after Chovet's arrival in Philadelphia, he began giving lectures on anatomy. If the reader will turn to the files of the *Pennsylvania Journal and Weekly Advertiser*, and of the *Pennsylvania Gazette*, for the months of October and November, 1774, he will find notices of the time and place of the lectures; also a very laudatory account of his first lecture, which was attended by "his Honour the Governor, the Trustees and Faculty of the College, the Clergy, the Doctors of Physic, the Students of Medicine, and a considerable number of the most respectable inhabitants of the City." During the years 1776 and 1777 the lectures given by Chovet were the only lectures on anatomy given in Philadelphia.

In Philadelphia, Chovet lived on Water street and, until 1777, he had his museum and lectures in a building situated in Vidal's Alley. In 1777 he built an amphitheatre in connection with his house on Water street, the first lecture being given there in January, 1778. Soon after the peace of 1783 he moved to Race street, and seems to have, at the same time, given up his lectures on anatomy.

Dr. John Fothergill, of London, was exceedingly interested in the young medical school at Philadelphia and presented it with a number of anatomical models, skeletons and eighteen anatomical charts done in crayon. These were used by Professor Shippen in connection with his lectures on anatomy at the medical school; but they were inferior to those made by Chovet. John Adams, of Massachusetts, visited both collections; the one at the hospital, on Tuesday, August 30, 1774; and Chovet's, on Friday, October 14, 1774. He made no uncertain comparison, for he says of Chovet's collection, "This exhibition is more exquisite than that of Dr. Shippen at the hospital." Chastellux visited Chovet in 1780 and, after examining his preparations, said, "They appear superior to those of Bologna." Dr. George B. Wood, speaking of the

collection given by Dr. Fothergill, says, "These served as the basis of a museum, which was afterwards greatly increased by the purchase from the executors of Dr. Chovet, an eminent but somewhat eccentric physician of Philadelphia, of his collection of preparations and wax models, then deemed masterpieces of art in that department." Morton, in his "History of the Pennsylvania Hospital," says, "In 1793, the managers acquired for the museum a very remarkable collection of anatomical preparations, including dried, injected and painted specimens, together with a series of beautiful wax models by Dr. Abraham Chovet." It is a matter of regret that the entire collection of Chovet's preparations was destroyed by fire in 1888, while the inferior collection given by Fothergill was saved intact. It would seem better if the elements had left a portion of Chovet's collection; for every one who saw it bore testimony to its excellence.

As a practitioner of medicine and surgery, Chovet was not without reputation. Norris describes him as being "a very popular physician, who came here from the West Indies." In another place he says, "Dr. Coste, the chief medical officer of Rochambeau's Army, in a tract which he published in Leyden in 1784, speaks of Chovet as a man skilled in all things pertaining to medicine, and especially in anatomy and surgery." Morton, in his sketch of Chovet says, "His character and the high quality of his professional acquirements entitled him to high rank among the medical profession, and with them to respectful remembrance."

Chovet was one of the twelve senior founders of the College of Physicians of Philadelphia and the only one of foreign birth. At this time he was over 80 years old, and the honor was all the more marked, for men of such advanced age are not asked to take part in a new enterprise unless their reputation will lend prestige.

Chovet was married previous to his leaving England; the tombstone of his daughter, Mrs. Abington, tells us she was born October 30, 1736, and died April 3, 1813.

Chovet said "that physician is an impostor who did not live till he was eighty"; he died March 24, 1790, in the eighty-sixth year of his age. In the obituary notice which was published in the *Universal Asylum and Columbian Magazine* for March, 1790, he is referred to as "an eminent anatomist and extraordinary man," who "for about half a century attracted the at-

tention of persons of all ranks and classes, in different parts of the world."

Dr. Chovet appears as one of the characters in S. Weir Mitchell's "Red City." The story opens May 23, 1792, and closes in September, 1795, covering about three years and four months. The last time Chovet appears in the story is some time in August, 1795, at which time he is represented as fleeing from Philadelphia. As Dr. Chovet died March 24, 1790, it is difficult to understand how he could be a living character in 1792, and so active in 1795, that he could "flee the city." While Chovet was eccentric, he did not deserve the ridicule which S. Weir Mitchell held him up to throughout his "historical" novel. All my investigations into the life and character of Dr. Abraham Chovet confirm the statement made by Morton in his "History of the Pennsylvania Hospital," which I again repeat: "His character and the high quality of his professional acquirements entitle him to high rank among the medical profession. and with them to respectful remembrance."

WILLIAM SNOW MILLER, M.D.

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#### Book Reviews.

*Manual of Vital Function Testing Methods and their Interpretation.* Second revised and enlarged edition. By WILFRED M. BARTON, M.D. Boston: Richard G. Badger, 1917.

The appearance of a second edition of this work within a year of its first publication would seem to prove its value. The second edition is enriched by several articles by Dr. Thomas S. Lee of Georgetown Medical College, on Sphygmobolometry, Sphygmobulography, and on Energetometry. Dr. Lester Neuman, also of Georgetown Medical College, has made very valuable additions to the second edition, which are to be found in the chapters on liver and kidney function. The author has added a short description of functional tests applied to the vegetative nervous system.

*The Way Out of War.* By ROBERT T. MORRIS, F.A.C.S. New York: Doubleday, Page & Co. 1918.

This work is a discussion of the theory that war is caused by man's defective brain. The

author maintains that as the sociologist and psychologist have both failed in their efforts to explain the condition of warfare, it is a task for the biologist, and a case for the application of natural law rather than educational conviction. Warfare begins with organic life, with the chemical conflict between the amoeba and the microbe. In man, intellectual faculties must be looked to for guidance in the future. This book expresses the belief that warfare which kills is not a final method; for higher than physical might there is moral reasoning. From the naturalistic standpoint, gas poisons are explained as freaks in the course of the decline of a nation which has reached cultural limitation. Correlative with the destructive process in nature we find war in its relation to the human species. According to the order in nature, through the union of better and better elements, a world state will emerge; but this can not be accomplished until the philosophy of mutual interdependence is perceived and adopted: This book gives an original interpretation of war and illumines the possibilities of the future.

*Acute Appendicitis: Practical Points from a Twenty-five Years' Experience.* By C. HAMILTON WHITEFORD, M.R.C.S., L.R.C.P. London: Harrison and Sons. 1917.

This book is a summary of various observations of the author in cases of acute appendicitis, embodying chiefly practical points in diagnosis and treatment learned through a twenty-five years' experience. The care necessary in the diagnosis of appendicitis is emphasized, and various aids to diagnosis are given. After diagnosis has been made, and operation has been decided on, general principles of pre-operative treatment, preparation of the skin, heating of the operating theatre, application of the anesthetic, are described. Clinically, the cases are divided into four groups: (1) Good, with no indication of abscess. (2) Fair, with definite signs of localized abscess. (3) Poor, with signs of spreading peritonitis. (4) Desperate, the patient being in a state of collapse. Operative treatment for each of the four classes of cases is described very clearly. Post-operative treatment and some post-operative complications are also touched upon, and a very interesting set of cases, all taken from the practice of the writer, are given to illustrate the conclusions drawn.

*Catechism Series.* Pathology, Part IV, Second Edition; Surgery, Part V, Third Edition. By CAPTAIN C. R. WHITTAKER, R.A.M.C., F.R.C.S. (Ed.), F.R.S.E., Edinburgh: E. and S. Livingstone. 1918.

Pathology, Part IV, is one of the handbooks of the Catechism Series, in which information

is given by means of the question and answer method. This pamphlet treats the subject of inflammation, its causes, its relation to the allied subjects of infection and fever, and describes conditions causing infection and fever. The pamphlet further treats the subjects of repair and immunity, and deals with diseases of the bronchi and lungs, including the several kinds of bronchitis, pneumonia, and tuberculosis.

Surgery, Part V, is also one of the Catechism Series, and treats such subjects as diseases of muscles, the rectum and anal canal, piles, abscesses and stricture of the rectum, tumors, various kinds of hernia, ulcer and cancer of the stomach, duodenal ulcer, acute intestinal obstruction, volvulus, cancer of the bowel, and vermiform appendix, describing the etiology and clinical features, and outlining the most efficient surgical treatment of each.

*The Psychology of Special Abilities and Disabilities.* By AUGUSTA F. BRONNER, Ph.D. 12mo, pp. 269. Boston: Little, Brown and Company. 1917.

Dr. Bronner's book is based upon the study of a large number of cases seen at the Juvenile Psychopathic Institute, Chicago, and contains much that is of interest to educators, to those interested in mental testing, and to students of psychology. This is not properly a study of the feeble-minded, but a discussion with many instructive illustrations of those numerous cases which, for one reason or another, have failed to adapt themselves to school or social conditions; and the author throughout emphasizes the importance of differential diagnosis, especially the attempts to determine in what directions the mental defect is found. As the writer says, the psychological examination, in and of itself, is not sufficient to enable one to reach a diagnosis. This requires a much broader acquaintanceship with the problems of psychopathology than mere familiarity with tests indicates. Abnormal reactions to tests are signs that require interpretation, since they may be due to any one of a number of causes. Hence the various possibilities must be known and considered before concluding that we have a case of either general mental defect, or special mental disability.

The writer discusses instances of defects in special directions which have come under her observation, such as of memory, visual representation, and others, including a discussion of the cases of so-called congenital word deafness and word blindness, and then gives a series of illustrations of general mental defect with special abilities, discussing briefly the various educational and social problems of the cases. Particularly interesting are the cases of general mental defect, with special ability in the

direction of language facility, as these cases so often lead people astray in their judgment. The book is one which will well repay careful reading and study.

*The Mastery of Nervousness.* By ROBERT S. CARROLL, M.D. 12mo, pp. 346. New York: The MacMillan Company. 1917.

This book does not in the least profess to be a medical treatise on neuroses, but is written evidently for the general public. The writer takes up rather briefly in the first chapters various forms of nervousness, chiefly a clear description of the numerous ways in which nervousness and the neuroses may manifest themselves. Then follow some chapters on various factors of influence in producing the symptoms, such as heredity, faulty modes of living, and social mal-adjustments. Next follow a number of chapters with clear and helpful descriptions of the management, chiefly by the sufferers themselves, of these numerous errors, mostly along the lines of reeducation and self-adjustments, which cannot help but be of great use.

This book can be heartily recommended to the physician for helpful hints in the management of various types of nervous cases, and also to intelligent and thoughtful patients as a safe guide to self-help.

*Locomotor Ataxia.* By WILLIAM J. M. A. J. MALONEY, M.D. (Edin.) 8vo, pp. 299. D. Appleton and Company: New York and London. 1918.

The author of this excellent treatise on the most common of the organic diseases of the nervous system has treated his subject in an admirable way, as an example of our applied knowledge of the anatomy and physiology of the structures involved, and everywhere with especial reference to the treatment of the disease and its symptoms. As was to be expected, the author gives full weight to recent work, proving the invariable syphilitic origin of tabes.

The writer, while in general giving very fully the results of the work and investigations of others in this disease, is inclined to a somewhat pessimistic view of the benefits from intradural injections of salvarsanized blood serum in this disease. While the benefits from this treatment are still undecided in many other forms of syphilitic affection of the central nervous system, in this disease the favorable results, in many instances amounting to a complete stationary condition of the process, and often with marked relief from many of the most distressing symptoms, have been controlled by too many observations, over sufficient length of time made by trained observers for the reviewer to quite share the doubts

of the author, as to the effectiveness of this procedure. The chapters on the uses of exercises and apparatus for the ataxia in tabetics are most excellent, and should be studied with care, as these forms of treatment are too often neglected.

This little monograph can be highly commended, not only to neurologists but to other physicians, as it is reliable and useful, and makes accessible a large number of facts not easily found.

**"What Men Live By."** By LEO N. TOLSTOI. Boston: The Stratford Company. 1918.

"What Men Live By, and Other Stories" is the third volume of a series of "25c Universal Library," published by the Stratford Company. In this volume are included four of Tolstoi's most famous stories. "What Men Live By" is one of the most spiritually beautiful of all his stories. "The Coffee-House of Surat" and "Three Questions" express the author's religious views and his strong sense of the bond of love and service which unites mankind. "How Much Land Does a Man Need?" points a moral, concluding, through the test of economic aspirations and ventures, that "six feet from his head to his heels" is after all sufficient. This is an unusually interesting collection of some of Tolstoi's finest and most characteristic work.

**Bipp Treatment of War Wounds.** By RUTHERFORD MORISON. **Amputation Stumps.** By C. MARTIN HUGGINS. Oxford War Primers. London: Henry Frowde—Hodder & Stoughton.

These two War Primers are of extraordinary value to surgeons engaged in military service. They are written by men who have observed the results of the methods of treatment which they describe. As there is little published information dealing with these war conditions available, the record of these personal observations are particularly valuable. Both volumes are illustrated.

"Bipp Treatment of War Wounds" shows that with the aid of antiseptics, primary union after suture of infected, suppurating wounds is possible. The technique of the treatment and the use of Bipp—a paste preparation—is briefly and clearly summarized and clinical experiments are described. Although there is some danger of poisoning both by bismuth and iodoform in the use of Bipp, experience in several thousand cases has proved that this danger is not so serious or frequent as to weigh against the advantage of its use.

"Amputation Stumps, Their Care and After Treatment," is written by a man who has been responsible for the treatment of about 3,000

amputation cases during the past year. This book is not intended to be a text-book, but aims to show what departure from pre-war practice should be made in dealing with amputations. Ideal stump conditions, the guillotine amputation, methods of preventing sepsis, and the technique of reamputation are among the topics generally considered. Detailed descriptions are given of amputation stumps of the upper and lower limbs, treatment of painful and tender stumps, sinuses and necrosis of bone, and joint deformities.

**The Medical Report of the Rice Expedition to Brazil.** By W. T. COUNCILMAN, M.D., and R. A. LAMBERT, M.D. Cambridge: Harvard University Press. 1918.

"The Medical Report of the Rice Expedition to Brazil" is both valuable to the physician and student of tropical medicine and of remarkable interest to the general reader. It describes the Amazon country, its rivers and forests, the people, and health conditions. The authors found it difficult to obtain scientific and accurate information regarding diseases of the region, but local health reports and travelers furnished some information. In this volume, visits to many cities are described. The conditions found in hospitals are considered and statistical information coming from health authorities is appended. Among the most common diseases are leprosy, cancer, malaria, tuberculosis, hookworm, ulcers, anemia, and enlarged spleens. The book is well illustrated and presents an unusually interesting picture of the Amazon region.

**Studies from the Rockefeller Institute for Medical Research.** Volume XXVIII. 1918.

"Studies from the Rockefeller Institute for Medical Research" is a volume composed of reprints of articles published in various journals and publications throughout the year. Among the many interesting articles of research, there are several which merit particular attention.

A study undertaken by Hideyo Noguchi and Rokusaburo Kudo of "The relation of mosquitoes and flies to the epidemiology of acute poliomyelitis" indicates that these insects should not be accepted as a factor in the epidemiology of poliomyelitis. Experiments upon monkeys with mosquitoes hatched in polluted water contaminated with the virus of poliomyelitis showed that neither these insects nor their offspring were able to infect the monkeys. An experiment with non-biting flies indicates that it is improbable that the virus of poliomyelitis is taken up by fly larvae and multiplied therein. The notion that these non-biting flies may act as intermediary hosts or a virus reservoir is not justified.



A "History and analysis of the methods of resuscitation," by S. J. Meltzer, gives a brief review of the 150 years of verifiable history of resuscitation. Until 1856, inflation was the method of procedure in artificial respiration; and special apparatus was required for its performance. In a later period, inspiration was accomplished by aspiration, which consists mainly in manual handling of the victim. The methods of Marshal Hall, Sylvester, Schäfer, and Laborde are described. The author's intratracheal pharyngeal insufflation apparatus is described and the order of procedure is discussed. This method is advisable for artificial respiration in cases of emergency, but not as a routine method for the administration of anaesthesia.

Two articles dealing with experimental surgery, on "Cicatization of wounds," are particularly interesting. One, by Alexis Carrel and Alice Hartmann, describes sterilization of wounds with chloramine-T. The technique for the application of the chloramine paste and its effects on aseptic and slightly infected wounds are considered. The experiments made show that chloramine paste maintains the asepsis of a wound already sterile, sterilizes an infected wound, and causes no apparent modification of the cicatrization curve of an aseptic wound. A second study, by Alexis Carrel, P. Lecomte Du Noüy, and Anne Carrel, deals with "The influence on the healing of wounds of variations in the osmotic tension of the dressing." The following conclusions were made: (1) The flushing of an aseptic granulating wound with hypertonic sodium chloride solution or distilled water brings about an immediate re-infection. (2) Distilled water and hypertonic sodium chloride solution do not modify to a measurable extent the rate of healing of an aseptic wound.

In the field of experimental biology, there are four articles of unusual interest. One, by Jaques Loeb, considers the chemical basis of regeneration and geotropism. It explains the resourcefulness of the organism in restoring its lost apex by the growth of hitherto dormant buds near the wound or by a geotropic bending of former horizontal branches by a phenomenon of mass action of nutritive and possibly some specific substances upon the cells. This process leads to a rapid synthesis and growth in these cells.

Another article by Loeb explains "The similarity of the action of salts upon the swelling of animal membranes and of powdered colloids."

The report of an investigation made by Reginald Fitz and Donald D. Van Slyke on "The relationship between reserve and acid excretion" concludes that in normal men and diabetics the excretion of acid in excess of fixed bases as measured by determining ammonia plus titratable acid bears a quantitative relationship to the alkaline reserve of the body as

measured by the CO<sub>2</sub> binding power of the blood plasma. Another study of acidosis, "The blood, urine, and alveolar air in diabetic acidosis," by Edgar Stillman, Donald Van Slyke, Glenn Cullen, and Reginald Fitz, presents the study of the quantitative measures of acidosis in the blood, urine, and alveolar air of diabetic patients. In charts and tables are summarized the general results of this investigation.

*Clinical Disorders of the Heart Beat.* By THOMAS LEWIS, M.D., F.R.S., D.Sc., F.R.C.P. Fourth Edition. New York: Paul B. Hoeber. 1918.

The purpose of this fourth edition of "Clinical Disorders of the Heart Beat" is to recount such symptoms and signs as the author has found to be serviceable in identifying cardiac disorders in his clinical observations of patients. Graphic records are confined almost entirely to such as illustrate what may be recognized by the practised senses. Seven forms of cardiac disorder are considered: sinus, arrhythmia, heart-block, premature contractions or extrasystoles, simple paroxysmal tachycardia, auricular flutter, auricular fibrillation, and alternation of the heart. A preliminary survey of these disorders is given in the opening chapter, in which certain common and generally recognized physical signs are translated into terms of mechanism. In the remaining chapters is given more detailed information concerning definition and nature, pathology, prognosis, and treatment of these disorders.

*Symptoms and Their Interpretation.* By JAMES MACKENZIE, M.D., LL.D. Third Edition. Paul B. Hoeber, New York. 1918.

In the third edition of "Symptoms and Their Interpretation," two appendices have been added. The first, giving a summary of Mr. Liget's investigations, demonstrates what a great field of research lies open to the surgeon; the second gives suggestions for investigating fields of medicine which are now obscure. The book draws attention to the importance of studying pain and the phenomena of the nervous system as valuable aids to diagnosis. The author believes that it is the recognition of the more obvious symptoms, rather than intricate laboratory methods, which is most useful to the general practitioner, who deals more often with the early symptoms of disease than with the advanced cases. The importance of the reflex phenomena of disease as a basis on which to found a rational principle of diagnosis is particularly emphasized. In this volume, illustrations of this principle are applied to diseases of certain viscera. Symptoms of the heart and stomach are worked out in more complete detail than those of other organs. The subject expounded in this book is a significant one, and

may in the future give a more direct aim to therapeutic endeavor.

*The Hodgen Splint.* BY FRANK G. NIFONO, M.D., F.A.C.S. St. Louis: C. V. Mosby Company. 1918.

This volume, describing the Hodgen Extension Suspension Splint, answers the imperative call for a better understanding of the basic scientific principles of fracture treatment. The author considers the articulated bones in relation to the general contour of the body from the mechanical point of view, and describes old and new appliances designed to assist in restoring anatomic and functional restoration. Treatment of long bones, particularly the femur, is considered. Splints for immobility, for immobility and suspension, and for immobility, extension, and suspension, are described. The Hodgen splint secures the application of extension and counter-extension in the most effective way, a proper reduction of the fracture, suspension of the limb and the freest movements of the patient and the limb, and muscle rest and relaxation through the flexion at the knee and hip. This splint is valuable for the treatment of compound fractures and septic wounds, as drainage, irrigation and dressings may be readily applied. For the routine examination by x-ray it is advantageous, as the patient may be moved into any desired position. The practical methods of making and applying the Hodgen splint are described. This appliance, as it has peculiar usefulness in the treatment of compound fractures and wounds of the soft parts, is particularly adapted for war service.

*The Composition of Certain Patent and Proprietary Medicines.* COMPILED BY JOHN PHILLIPS STREET, MAJOR, SANITARY CORPS, N. A. Chicago: American Medical Association. 1917.

The purpose of this volume is to render accessible to the general public an accurate record of published analyses, heretofore scattered through many publications. This book includes analyses of about 2,800 of the most extensively advertised "patent" and proprietary medicines. Federal and state officials and the chemists of the American Medical Association have organized and offered results of many of these analyses. Besides remedies of secret composition, this book includes certain "ethical" preparations sold for physicians' prescriptions and a number of preparations recognized in the National Formulary. The compiler has given an accurate transcription of the published analytical data, with references to the publications in which each analysis may be found. No comments upon their relative values are given. The analyses are compiled alphabetically and in compact form.

*The Wassermann Test.* BY CHARLES F. CRAIG, A.M., M.D. St. Louis: C. V. Mosby Company. 1918.

"The Wassermann Test" includes valuable information regarding the use of this test as a diagnostic measure, as a method of controlling treatment, and as a means of determining the prevalence of syphilis. The Wassermann test is described, and the nature of the reaction and the factors which influence the result of the test are explained. The author's modification of the Wassermann test has been recommended for use in all army laboratories. It follows Wassermann in using an extract of foetal syphilitic liver as one antigen and in inactivating the patient's blood serum, and Noguchi in using a human hemolytic system instead of the sheep system. The writer's technic is explained in detail and the results obtained by its use in different stages of syphilitic infections are given. As a diagnostic measure, this method has been proved to be as simple and accurate as any that has been devised. It is particularly valuable as a method of treatment, for by means of it a relapse of syphilitic infection can be diagnosed and treatment can be given in a stage more amenable than after the appearance of clinical symptoms. The method recommended in this book has been used successfully in thousands of syphilitic infections.

*Dispensaries.* BY MICHAEL M. DAVIS, JR., PH.D., and ANDREW R. WARNER, M.D. New York: The Macmillan Company. 1918.

This volume is a presentation of the history of dispensaries and their organization. The status of the patient is discussed, with reference to class, ability to pay, and relation to physicians. A definite scheme in organizing dispensaries is presented. There is a discussion of the details of the various clinics, including equipment, system of admission of patients, records and statistics. Special emphasis is laid on the importance of the follow-up system and the cooperation of the social service in securing proper conditions for the patients' recovery. The annual reports of several hospitals show that the average cost per visit of each patient varies from 52 cents to 18 cents, depending upon the hospital. The importance of public health departments and preventive medicine, of pay-clinics for those who are not willing to take charity, and of community organization for the greatest benefit of all are emphasized. In conclusion, the authors state the importance of education and public understanding of the nature of modern medical work and its importance to the community. The book is written for administrators, public health workers and all interested in better medical service for the people.

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## THE COVENTRY CASE.

THE Coventry case, as it is conveniently called in England, has apparently attracted little attention in this country; and yet the history of this remarkable litigation contains a variety of instructive facts and theories. It is, therefore, worth while to give a brief account of an action against a scientific and humanitarian body like the British Medical Association, since the results of the suit and the legal opinions on its merits constitute not only a most interesting, but also a virtually unique chapter in medical annals. The moral of the whole affair seems to be the only familiar thing about it; this moral certainly is that it is extremely difficult for most physicians to grasp the principles which govern advocates in courts of law. Another point is that it would be affectation to deny that it is possible to stretch the authority of even the best of corporate bodies.

Whether such an action at law is ever likely

to occur in this country is also an interesting question. To us the probability seems to be that a Coventry case here would be a wild paradox, since the ethical code of practitioners and societies is better defined than in any other country. This may be said without vanity, but the truth of the statement may not be so clear to those who have not followed recent events in Europe and noted the discussions between medical groups which have arisen even in the midst of war. In the Coventry case one of the most prominent features was the dispensary abuse. Much has been said and written about the faults and abuses of the dispensary system, but here again we have the conviction based upon actual experience that these abuses are somewhat better controlled by our own rules.

There is always difficulty about the reporting of such a legal case as the action of Pratt and others vs. the British Medical Association. In one important detail the reports differ. Thus in *The Law Reports* it is stated that there is a new and an old Coventry Dispensary, and it may be inferred that the new institution is under strictly ethical management. But for many years there has been at Coventry a Provident Dispensary. The members of this institution paid a small subscription and received medical attendance during illness. In 1907, four out of seven of the doctors of the dispensary resigned and started a new institution, the New Dispensary. The resignation of these physicians was due to the causes of complaint against the old institution, the British Medical Association urging that there was canvassing of the public for patients through a collector paid on commission; that the management was too much in lay hands; that no proper wage limit was imposed upon the subscribers for medical aid, and that such limit was retrospective. The dispensary, however, was able to find medical officers, since a certain number of practitioners took a different view from the ethical one, and accepted appointments. The plaintiffs in the action had thus been medical officers to the Coventry Provident Dispensary. They brought the action against the British Medical Association, and certain medical practitioners of Coventry, and claimed damages for "conspiracy to injure them in their profession and to libel and slander them and for libel and slander." (*Law Reports*, October, 1918.) The plaintiffs alleged that from 1907 those who were connected with the old dispensary were ostracised by the British Medical Association, and

that under the system of ostracism adopted by the Association for disciplinary purposes no member of the Association would have anything to do with a doctor who was ostracised and no consultant was allowed to attend his patients.

These are the facts. What is the rule of law? There is no doubt that lawyers had generally anticipated the opinion of the presiding justice, who found for the plaintiffs on all counts. On the main question, was the ostracism of these men lawful? It was held that even independently of the circumstance of combination a person commits an actionable wrong if he inflicts actual pecuniary damage upon another by the intentional employment of unlawful means to injure that person's business, even though such unlawful means may not comprise any specific act which is *per se* actionable; that threats constitute unlawful means within the rule; though it is a question of fact whether the words used amount to a threat or are merely a warning; that the defendants had made their boycott of the plaintiffs effective not by warnings only but by the employment of actual threats; that though under the above rule a defendant might be saved from liability, if his acts were committed with "just cause," yet no such justification for threats existed by reason of the fact that the defendants acted for the advancement of the trade interests of themselves or their associates; that malice was not essential to a cause of action based on the pecuniary injury inflicted by the employment of unlawful means to molest a man in his trade, but that the defendants had acted from actual malice and that a corporate body can be guilty of actual malice in the case of any tort in which actual malice is no ingredient; and that the plaintiffs were entitled to damages both for being unlawfully molested in their trade and for defamation.

The exact definition, and the legal and popular meaning, attached to such terms as "conspiracy" and "malice," were carefully set forth in the justice's decision. Perhaps more attention was given to the ingredient of malice than to any other point. The belief of physicians in the ethical quality of medical rules has sometimes blinded them to their complete separation from the rules by which lawyers and men of business guide their conduct. It must be admitted that there are many laymen who express wonder, not unmixed with dislike, at the canons of medical bodies and councils, which they occasionally find

invested with authority in professional transactions. At the present time medical rules are criticised in this spirit. Many of these critics are orthodox supporters of scientific schools of medicine, and yet they seem quite out of sympathy with ethical rules. There can be no doubt that this very common feeling is the secret of some of the strength manifested by various medical cults. Any undue exercise of regular authority should be carefully watched and vigilantly opposed. If these precautions are not taken, medical bodies will be in danger of losing their authority. This is certainly a serious prospect, even if there is no danger of such a successful action as that of Pratt and others vs. the British Medical Association.

#### INFLUENZA PANDEMIC IN AMERICAN ARMY CAMPS.

By permission of the Surgeon General of the United States Army the report of Major George A. Soper, Sanitary Corps, U. S. A., under date of October 26, 1918, with reference to the influenza pneumonia pandemic in the American army camps during September and October, 1918, has been released for publication, and appeared in *Science* of November 8, 1918. The data and deductions contained in this report have been gathered from telegrams and other sources of daily information.

Four weeks after the first outbreak which occurred at Camp Devens, Ayer, Massachusetts, about September 7, the following report of cases was made among all the troops in the United States for the period September 12-October 18, 1918:

	SEPTEMBER		OCTOBER			TOTAL
	30	27	4	11	18	
Influenza..	10,094	37,493	88,478	90,393	48,287	274,745
Pneumonia	753	4,813	8,655	17,882	14,768	45,298
Deaths ..	95	951	3,375	6,005	5,539	14,816

On September 12 the total number of cases which had been admitted to the hospital at Camp Devens was 599; and in spite of measures taken to check its spread, the disease ravaged rapidly among the soldiers with pneumonia as a frequently fatal sequel. Each day brought a rise, and the decline in the number of cases was a slow one. In nearly every other army camp throughout the United States the characteristics of the epidemic followed closely those of the Devens outbreak. The early cases, often simu-



lating other symptoms, caused considerable confusion and isolation was therefore not effected soon enough. The explosion was sudden, and when the new cases existing in camp rose to 100 a day, it was immediately recognized that an epidemic was prevalent and within one week from the start at Camp Devens, nine large army camps in various parts of the United States reported in quick succession the prevalence of this disease. The following table gives the order of attack in the various camps, but does not cover the reports from posts, aviation stations, and other troop centers:

Order 1,	Devens, Massachusetts, Sept. 12.
" 2,	Upton, New York, Sept. 13.
" 3,	Lee, Virginia, Sept. 17.
" 4,	Dix, New Jersey, Sept. 18.
" 4,	Jackson, South Carolina, Sept. 18.
" 5,	Hoboken, New Jersey, Sept. 19.
" 5,	Syracuse, New York, Sept. 19.
" 5,	Gordon, Georgia, Sept. 19.
" 5,	Humphreys, Virginia, Sept. 19.
" 6,	Logan, Texas, Sept. 20.
" 6,	Funston, Kansas, Sept. 20.
" 6,	Meade, Maryland, Sept. 20.
" 7,	Grant, Illinois, Sept. 22.
" 7,	Taylor, Kentucky, Sept. 22.
" 8,	Servier, South Carolina, Sept. 23.
" 8,	Lewis, Washington, Sept. 23.
" 8,	Newport News, Virginia, Sept. 23.
" 9,	Pike, Arkansas, Sept. 24.
" 10,	Beauregard, Louisiana, Sept. 25.
" 10,	Eustis, Virginia, Sept. 25.
" 11,	Greene, North Carolina, Sept. 26.
" 11,	McClellan, Alabama, Sept. 26.
" 12,	Kearney, California, Sept. 27.
" 12,	Bowie, Texas, Sept. 27.
" 13,	Johnston, Florida, Sept. 28.
" 13,	Sheridan, Alabama, Sept. 28.
" 14,	Sherman, Ohio, Sept. 29.
" 14,	Dodge, Iowa, Sept. 29.
" 14,	Shelby, Mississippi, Sept. 29.
" 15,	Custer, Michigan, Sept. 30.
" 16,	Travis, Texas, Oct. 1.
" 17,	Cody, New Mexico, Oct. 3.
" 18,	Forrest, Georgia, Oct. 6.
" 19,	MacArthur, Texas, Oct. 7.
" 20,	Wadsworth, South Carolina, Oct. 11.
" 20,	Wheeler, Georgia, Oct. 11.
" 20,	Greenleaf, Georgia, Oct. 11.

Meanwhile from every quarter of the United States it was being reported by civil as well as military authority. But aside from its damage as an epidemic in civil life, the possibilities of its particular effect on the army are many, owing to the difficulty of control by isolation. The disease is carried from place to place by persons and its rapid spread is due to its great infectivity, short period of incubation, missed cases, and the absence of timely precautionary measures. Major Soper believes the Pfeiffer bacillus responsible, and the means of transportation especially due to objects recently contaminated by the buccal and nasal secretions of those who carry the virus. When material from the mouth

or nose of infected persons gets into the nose or mouth of a susceptible person, the disease is produced, and thus the habit of coughing and sneezing helps greatly to spread the infection. It is believed that the Pfeiffer bacillus has been present in America for a long time among healthy persons before this pandemic occurred, but it has not yet been clearly proven to what account the astonishing outbreak was due. So far the acquired immunity by vaccination is in the experimental stage; and the fact that so many relatively young persons of good general health (especially among recruits living under conditions of freedom from conflict, etc.) were victims, leaves the question of susceptibility very much in the dark. Weather is supposed to have an effect upon influenza, but here again, there is no definite relation as all climates seem to have shared in the outbreak, and camps in all quarters of the country were touched.

The present pandemic has been compared with others in America and in other countries—that of 1832 in Paris, when about 40 per cent. of the population was attacked; that of 1872 in London and in some German cities; that of 1889 in London and in America. However, accurate statistics for comparison are not available because in civil life the records are not systematically tabulated as they are in military. In civil life a great many diseases which resembled influenza were given that name by the laity, which led to a confusion in designation. Therefore, for future reference and comparison the data collected from the effect of the pandemic in United States Army camps should prove of lasting value.

#### PUBLIC HEALTH SERVICE AND INFLUENZA EPIDEMIC.

THE manner in which the United States Public Health Service was able to cope with the widespread epidemic of influenza in various states has been called especially to our attention in a publication recently authorized by that Service. From the outset of the epidemic it was made clear to those in charge of the work of arresting the disease, that the object of the United States Public Health Service was to assist the state and local authorities in their work and not to supplant them. Consequently, when the appeal was sent from Boston, where the epi-

demic was ravaging to an extent which immediately demanded the summoning of outside aid, the Surgeon General called upon the Volunteer Medical Corps, the Red Cross, and the medical and nursing professions as a whole, because it was found that the personnel available in the United States Public Health Service could not hope to fulfill the necessity. In general, the work of the doctors and nurses under the Public Health Service is limited to preventive health measures in rural districts, but national emergencies, such as this disease bids fair to become, were provided for when the Service became a part of the War Department. As a result of this, the Volunteer Medical Service Corps compiled a list of over 1,000 names classified by states. The Public Health Service offered appointments to these men by telegraph, and within forty-eight hours districts throughout New England, where the disease first broke out with such force, were receiving groups of physicians for relief. Later, units were sent to other states where the demand arose. The next problem was that of the nursing supply. And here the co-operation which was given by the Red Cross through its nurses and through its trained attendants deserves unlimited praise. Through its efforts the members of local communities were summoned to assist; and intelligent volunteer workers, under the direction of trained nurses, relieved in a splendid manner the serious emergency caused by the lack of trained nurses. Work was greatly facilitated also by the ruling that all requests for medical, nursing, or other emergency aid in dealing with the epidemic should come to the United States Public Health Service only through the State health office, and in consequence of this arrangement the work was organized on state lines with a representative of the United States Public Health Service as director. This method of appeal from local communities to the Public Health Service was especially effective, as in many districts the few practising physicians were stricken with the disease themselves and the people would otherwise have suffered from the urgent need of medical attendance.

#### ADAPTATION IN BONE ARCHITECTURE.

THE adaptiveness of bones to new conditions is a problem which has received, perhaps, too

little attention from biologists. The characteristics of animal and human structure have been explained during scientific progress in various ways, by such theories as natural selection, mutation, orthogenesis, Weismann's theory of continuity of the germ plasm, Lamarck's doctrine of inheritance of acquired characters, and the paleontological theory of the importance of environmental factors. In recent years, considerable interest has been taken in the evidence of adaptiveness of organisms. In an article in *The Scientific Monthly* for January, 1919, Professor R. M. Strong presents the following views on this subject:

Skeletal structures are capable of much greater changes than biologists ordinarily realize. Bones are highly adapted to their functions. Their architecture may be greatly altered as the consequence of accidents, new strains, or disease. The organism and its constituent cells have as a condition or principle of their organization adaptiveness to new conditions. This involves susceptibility to stimulation effective in heredity. There is evidence that this capacity is possessed by the germ cells as well as by the somatic cells. The doctrine of absolute isolation of the germ cells from stimulation by somatic cells which may be effective in heredity, is untenable. Much of this apparent isolation or lack of susceptibility may be due to the power of the conservative forces of heredity.

The balance in power between heredity and environmental influence may be considered to vary for different characters and organisms, very likely also for periods in activity. In the course of time, a character may become fixed, or mechanical limits may be reached for adaptation. The architecture of the skeleton is regarded as the consequence, to some extent at least, of inherited adaptations.

The phenomena of bone architecture development and adaptation do not appear to support the ultra-Mendelian conception that new characters may arise only by re-combinations of unchangeable germ-plasm units or by the loss or addition of such units.

#### RATS AND PLAGUE.

In the January 9th edition of the *Boston Evening Record*, our attention was called to certain conditions conducive to disease which

are said to prevail along the waterfront of our city. Like all ports of entry for foreign shipping, Boston is bound to receive many undesirable and unbidden forms of disease carriers. But, all individuals, as well as all animals, are sources of contagion, and if, as the Health Department suggests, the trapped rats, which are believed to be responsible for particular forms of epidemic, are carried from the wharf districts to the pathological laboratories by individuals, what of the danger of infection from the professional rat-catcher himself? The question of ridding a city of plague rats is indeed a large problem. Not a small bit of assistance along these lines has been volunteered by the Woman's Municipal League under the direction of Mrs. Albert T. Leatherbee. In 1916, a strenuous effort was brought to bear by the League to rid the city of rats, but for some unapparent reason sufficient coöperation was not forthcoming among the real estate owners in the infested districts. Now, in view of the dire results of the epidemic of influenza which ravaged our city in early autumn, and the reemergence which has recently occurred, innumerable possibilities of spreading this particular disease are presenting themselves to the good people of Boston, and censorship is being laid at the door of the Health Commissioner for his seeming negligence in effectively encouraging the gentle art of killing rats. This is probably due to the fact that his attention has been directed to other things which he considered, at the time, of more consequence. Just at present there does not seem to be any immediate menace from plague-infested rodents, and neither has it been positively proven that the epidemic of influenza was directly traceable to flea-infested rats. It may be true that since last September, when rat-catching was temporarily discontinued, the number of black rats has increased, but this does not mean that Commissioner Woodward is overlooking his duty toward the public. We have his assurance and that of Mr. Peters in this regard, and there are times in all kinds of endeavor when important duties press upon each other with the consequent danger of relegating some one of the duties to the background. Then it is that suggestions from people, such as were recently offered by the Woman's Municipal League, are timely. We trust that the proper protective measures will be continued.

#### YEAST.

For a long time the value of yeast has been known and appreciated by the medical profession. Especially has its administration been found helpful in gastro-intestinal conditions. Recently, however, there seems to have arisen a tendency to regard the familiar compressed yeast-cake as a panacea for irregularities of the gastro-intestinal tract which manifest themselves in various skin conditions and in intestinal stasis. As has been stated in previous articles on this subject, the vitamine content of yeast is of very valuable importance, but it still behooves us to retain a circumspect attitude as to its therapeutical success in the treatment of chronic disorders.

#### MEDICAL NOTES.

**POSTPONEMENT OF "HEALTH SUNDAY."**—"Health Sunday" will be postponed from February 9 to February 23, in order not to conflict with the memorial services which have been arranged for Theodore Roosevelt for the former date.

**FOOT AND MOUTH DISEASE IN ENGLAND.**—After being notified by British authorities that foot and mouth disease has broken out again in England, the Bureau of Animal Industry has canceled all permits for importation of cattle, sheep and swine from that country and is taking special precautions for the inspection and quarantine of such animals now en route to the United States. British veterinarians are said to have the outbreak under control.

**INFLUENZA IN INDIA.**—A report received recently by the Board of Foreign Missions of the Presbyterian church indicates that certain sections of India are being swept by influenza and famine. Conditions are especially distressing at Kodoli, Miraj, Ratnigiri, and Sangli. In Sangli, there have been more than 7,000 cases of influenza, with a daily death rate of 20. The people are suffering also from hunger and cold.

**WOMAN DENTIST IN WAR SERVICE.**—Dr. Marion W. Stevens, the first woman dentist in the country to enlist for service with the Red Cross, has been assigned to duty in Serbia. Dr.

Stevens holds the rank of first lieutenant for more than a year's service in France.

**AMERICAN ASSOCIATION OF ANATOMISTS.**—The annual meeting of the American Association of Anatomists, which is usually held during the Christmas vacation, has been postponed until this spring, and will be held, possibly, during the Easter recess.

**PARIS ACADEMY OF MEDICINE.**—The late Dr. Magnan, the French psychiatrist, left \$5,000 to the Paris Academy of Medicine, to be applied to the foundation of a triennial prize for the best work on mental medicine.

**WESTERN UNIVERSITY MEDICAL COLLEGE.**—The faculty of medicine in Western University, London, Ont., is planning the erection of a new medical college building at an estimated cost of \$100,000.

**GUY'S HOSPITAL FELLOWSHIP.**—A research fellowship of the annual value of £150 has been founded at Guy's Hospital in memory of the late Lieutenant R. W. Poulton Palmer and his sister, the late Mrs. E. H. A. Walker, the object of which will be the investigation of obscure diseases in man.

**PROMOTION OF DR. ASTLEY ASHHURST.**—Dr. Astley P. C. Ashhurst, of Philadelphia, who went to France as a major in command of Base Hospital No. 34, unit of the Episcopal Hospital, has been promoted to the rank of lieutenant-colonel and placed in charge of all the hospitals in the Mantes Sector. His place as director of Base Hospital 34 has been taken by Dr. Emory G. Alexander.

**MAJOR J. C. FITZGERALD.**—Major J. C. Fitzgerald, director of Connaught and Antitoxin Laboratories, University of Toronto, is at present with the Royal Army Medical Corps, as officer-commanding, No. 39 Mobile Laboratory, France, and acting also as adviser in pathology.

**SIBERIAN TYPHUS.**—The Red Cross Bulletin for January 13, 1919, describes the work which will be undertaken by the Allies in fighting typhus in Siberia. An Allied anti-typhus train, which is to be under the control of the American Red Cross Commission and is to be operated by the American Red Cross, is to be sent out through Siberia to fight the typhus situation,

which is reported serious. The plan was decided upon by the Allied Sanitary Commission, as a result of recommendations made by the Red Cross.

The funds for this relief enterprise are primarily to be supplied by the various allied powers, though it is conceivable that a certain amount may have to be supplied later by the American Red Cross. Dr. Joshua Rosett of Baltimore has been placed in charge of the train and will be the medical director.

The train is composed of fourteen cars, including cars with bathing facilities, cars for clothing, drugs, and for personnel. On coming to a town where typhus is prevalent, the coöperation of the local authorities, hospitals, and doctors will be obtained, and the work will be done through the Russian people themselves so far as possible. No military force of any kind is to be used; but the train is to be sent out in a spirit of helpfulness to the Russian people. Circulars will be printed in Russian and distributed along the line, telling the people of the necessity for bathing and keeping clean, and stating the general precautions against typhus. While the whole plan is largely experimental, it is believed that this will prove to be one of the most far-reaching projects which the Red Cross has undertaken.

**INFLUENZA EXPERIMENTS.**—The difficulties surrounding the study of the nature of the virus of influenza is indicated by the following summary of two series of experiments recently carried out, one at Boston and one at San Francisco. These experiments are reported in the *Public Health Report* issued by the United States Public Health Service for January 10.

In Boston the experiments were carried on at the United States Quarantine Station, Gallop's Island. The subjects of experiment were 68 volunteers from the United States Naval Detention Training Camp, Deer Island, Boston. These volunteers had been exposed in some degree to an epidemic of influenza at the training camp or at some station prior to coming to Deer Island; 47 of the men were without history of an attack of influenza during the recent epidemic, and 39 of these were without history of an attack of such illness at any time during their lives.

The experiments consisted of inoculations with pure cultures of Pfeiffer's bacillus, with secretions from the upper respiratory passages, and



with blood from typical cases of influenza. The study was begun on November 13 with an experiment in which a suspension of a freshly isolated culture of Pfeiffer's bacillus was instilled into the nose of each of three non-immunes and into three controls who had a history of an attack in the present epidemic. None of these volunteers showed any reaction following this inoculation. Another experiment was made at a later date with a suspension of a number of different pure cultures of Pfeiffer's bacillus, of which four were recently isolated. Ten presumably non-immune volunteers were inoculated, with the same negative results.

Three sets of experiments were made with secretions, both unfiltered and filtered, from the upper respiratory tract of typical cases of influenza in the active stage of the disease. In these experiments a total of 30 men were subjected to inoculation by means of spray, swab, or both, of the nose and throat. The interval elapsing between securing secretions from the donors and inoculation of the volunteers was progressively reduced in these experiments so that in the third of the series the interval at most was 30 seconds. In no instance was an attack of influenza produced in any one of the subjects. An experiment was made in which the members of one of the groups of volunteers which had been subjected to inoculation with secretions were exposed to a group of cases of influenza in the active stage of the disease in a manner intended to simulate conditions which in nature are supposed to favor the transmission of the disease. Each of this group of ten volunteers came into close association for a few minutes with each of 10 selected cases of influenza in the wards of the Chelsea Naval Hospital. At the time the volunteers were exposed to this infection the cases were from 10 to 84 hours from the onset of their illness, and four of them were not over 24 hours from the onset. Each volunteer conversed a few minutes with each of the selected patients, who were requested to, and coughed into the face of each volunteer in turn, so that each volunteer was exposed in this manner to all 10 cases. The total exposure amounted to about three-quarters of an hour for each volunteer. None of these volunteers developed any symptoms of influenza following this experiment.

Another experiment was conducted at Angel Island Quarantine Station, San Francisco. The volunteers for the experiment were from the

Yerba Buena Naval Training Station. The volunteers who were used in these experiments differed from those used at Boston in two respects—first, the personnel of the Yerba Buena Station had not been exposed to influenza in the present epidemic and were, therefore, presumed not to possess any special natural immunity; second, all of the men had been vaccinated with large doses of bacterial vaccine containing Pfeiffer's bacilli, the three fixed types of pneumococci and hemolytic streptococci. In experimenting with cultures, a group of 10 volunteers was divided into two equal squads. One group had instilled into the nostrils of each man a heavy suspension made by emulsifying cultures of eight strains of Pfeiffer's bacillus without filtration. The other group had the same material used after passage through a Berkefeld N candle. The results were negative, though the men were held under observation for seven days.

In working with secretions, four groups of volunteers, of 10 men each, were used. Emulsions of secretions from the upper respiratory passages or active cases of influenza from 15 to 48 hours from the onset were instilled into the nose by means of a medicine dropper or with an atomizer. In each experiment approximately an equal number of volunteers were treated with the same emulsion after filtration through a Berkefeld N candle. In every case the results were negative, so far as the reproduction of influenza is concerned. The men were all observed for seven days after inoculation. In three cases in which unfiltered material had been instilled, sore throat developed which corresponded clinically to acute tonsillitis, and in two of these cases an almost pure culture of a hemolytic streptococcus was secured from throat cultures.

A filtered emulsion of material from the upper air passages of an acute case of influenza was dropped into the conjunctivae of two volunteers and the same material injected subcutaneously into one volunteer. In each case the result was negative.

One cubic centimeter of blood taken during the active stage of influenza was inoculated subcutaneously into one volunteer with negative results.

#### BOSTON AND MASSACHUSETTS.

**WEEK'S DEATH RATE IN BOSTON.**—During the week ending January 25, 1919, the number of deaths reported was 401 against 282 last year.

with a death rate of 26.25 against 18.74 last year. There were 49 deaths under one year of age against 56 last year.

The number of principal reportable diseases were: Diphtheria, 56; scarlet fever, 25; measles, 8; whooping cough, 20; typhoid fever, 3; tuberculosis, 46.

Included in the above were the following cases of non-residents: Diphtheria, 2; tuberculosis, 2.

Total deaths from these diseases were: Diphtheria, 8; scarlet fever, 1; whooping cough, 1; tuberculosis, 12.

Included in the above were the following non-residents: Diphtheria 2; scarlet fever 1; tuberculosis, 3.

**GIFTS TO HOSPITALS.**—By the will of the late Thomas B. Fitzpatrick, Boston, several hospitals have received the following bequests:

Lying-In Hospital, \$2,000; St. Elizabeth's and Carney hospitals, each \$1,000; and Newton and Framingham hospitals, each \$500.

**EAST BOSTON MEDICAL SOCIETY.**—The annual meeting of the East Boston Medical Society was held on January 22. The following officers were elected: Frank H. Tilton, president; Robert Bonney, vice-president; A. L. McLaren, treasurer; J. Danforth Taylor, secretary.

Dr. David Seannell narrated some of his experiences in France.

**MASSACHUSETTS DENTAL SOCIETY.**—The Central District of the Massachusetts Dental Society, Worcester, Massachusetts, presented the film "Fit to Fight," at the Worcester Trade School Hall on February 3. Dr. J. J. Carroll of the State Department of Health delivered an address on the subject, "Venereal Disease." The motion picture was prepared by Surgeon-General William C. Gorgas, as a part of his program for combating venereal disease.

**MEDICAL ADVISORY BOARD.**—A medical advisory board, consisting of eleven physicians, has been appointed by Mayor Peters. From time to time the board will confer with Health Commissioner Woodward about the city's health problems. The following doctors have agreed to give their time for this service: Dr. R. M. Smith, Dr. John Treanor, Dr. Anna G. Richardson, Dr. E. J. Denning, Dr. J. D. Barney, Dr. D. L. Edsall, Dr. J. J. Minot, Dr. H. Linenthal,

Dr. H. M. Pollock, Dr. H. E. Bragdon, and Dr. J. B. Blake.

**OPPOSITION TO APPROPRIATION FOR INFLUENZA INVESTIGATION.**—Dr. Eugene R. Kelley, State commissioner of health, is reported to have opposed the introduction of a bill which would authorize an appropriation of \$50,000 for a further investigation of influenza. Dr. Kelley expressed the belief that an appropriation for promoting the use of a serum might be used to good advantage, but that money expended for purposes of investigation would be wasted.

**MEETING OF VISITING NURSING ASSOCIATIONS.**—The fourth annual meeting of the Massachusetts Committee of Directors of Visiting Nursing Association was held recently in Boston. The morning session was devoted to the subject, "Public Health Nursing in Rural Communities," and to a general discussion of a bill now before the Massachusetts Legislature providing for the registration and licensing of paid nursing attendants. Addresses dealing with various aspects of visiting nursing were delivered by Dr. Merrill E. Champion, Mrs. Clark Durant, Miss Mary Beard, and Miss Ella Phillips Crandall. The secretary's report stated that no year has ever brought such pressure on visiting nurse associations as the past one, due, principally, to the epidemic of influenza.

**LONG ISLAND HOSPITAL, BOSTON.**—The twenty-first annual report of the Boston Infirmary Department contains a report of the Visiting Medical Staff of the Long Island Hospital. The hospital medical staff has been increased by the addition of two assistant resident physicians, a resident pathologist, pathological technician, x-ray technician, and three supervisors of nurses. A further innovation has been made in the partial substitution of women house officers for men. Equipment for the pathological laboratory and for the dental department has been purchased. There have been admitted to the hospital during the year 700 men and 339 women.

The Long Island Hospital Training School for Nurses has graduated 17 nurses for the year 1917-18.

**REPORT OF THE BOSTON HEALTH DEPARTMENT.**—The annual report of the Health Department of Boston, submitted for the year 1917, contains detailed reports from the five executive divi-

sions of the Health Department: the Division of Medical and Child Hygiene, the Sanitary Division, the Division of Food Inspection, the Division of Vital Statistics and Accounts, and the Laboratory Division. Among the most important aspects of the work for the year 1917 may be mentioned the campaign against venereal disease, the campaign for the conservation of child life, the promotion of educational work by means of lectures, lantern slides, bulletins, public exhibits, and posters, and the establishment of several local health units. The total number of deaths recorded for the year 1917 was 12,728; degenerative changes in the arteries and internal organs, tuberculosis, lobar pneumonia, cancer, and a combination of conditions which may be summarized as causes of infant mortality, have been the most frequent causes of death.

**INFLUENZA IN BOSTON AND MASSACHUSETTS.**—Reports of cases of influenza and pneumonia cases indicate that the figures are again increasing. On January 21, 217 cases of influenza and 15 of lobar pneumonia reported to the Boston Health Department. There were 15 deaths from influenza and 6 from pneumonia.

On January 22, 144 cases of influenza, with 17 deaths, and 25 new lobar pneumonia cases and 4 deaths were reported. Dr. Woodward is reported to have issued the following warning to the general public:

"I wish you would point out the necessity for continuing precautions hitherto urged. So long as influenza remains in the community and so long as the community does not recognize colds which cannot be distinguished from influenza as being quite as dangerous as influenza itself, no satisfactory results can be anticipated from restrictive measures directed against influenza."

On January 23, 150 cases of influenza, with 20 deaths and 9 new lobar pneumonia cases with 6 deaths, were reported to the Health Department of Boston.

One hundred and ninety-two cases, with 10 deaths, and 14 new lobar pneumonia cases, with 6 deaths, were reported to the Health Department of Boston on January 24. Dr. Woodward is reported to have issued the following statement:

"The increase should serve to remind the public of the continued danger from influenza, notwithstanding the decrease in the number of deaths recorded, and to remind them of the necessity of constant vigilance on the part of

every one to protect his own health and the health of the community."

On January 28, 95 cases of influenza and 14 of pneumonia, with 7 deaths from influenza and 9 from pneumonia, were reported to the Boston Health Department. Dr. Woodward, health commissioner, is reported to have made the following statement:

"While the deaths from influenza are decreasing, those from pneumonia are probably tending to increase slightly. These reported deaths from pneumonia, however, include pneumonia of all forms and from all causes, and as the causes which may give rise to pneumonia tend to increase as the season advances a corresponding increase in deaths from pneumonia is to be expected. There are usually eight or nine deaths from pneumonia in Boston daily at this season."

**PULMONARY TUBERCULOSIS AMONG TENEMENT DWELLERS IN BOSTON.**—The December issue of the *Commonwealth* presents data concerning the apparent relation of phthisis, pulmonary tuberculosis, to the life and habits of the people in certain districts in Boston. A patient and intensive examination of 414 cases in the North, West, and South Ends of the city has disclosed many of the causes which are responsible for lowering the resistance of the body to the disease. The relation of tuberculosis to living conditions has been found to be an important one. The history of each case studied in this investigation was charted from information secured through the coöperation of the out-patient department of the Boston Consumptives' Hospital and social workers, and from personal visits to homes and industries. At the home, methods of recreation, habits, length of residence and housing were examined. Not only the housing at the immediate residence was studied, but also that at previous residences.

In this study, the economic condition, including size of families, amount of income, rents, insurance, charitable aid, and especially the quality and quantity of food, was closely examined. In the majority of cases, however, lack of proper food was greatly outweighed as a cause of tuberculosis by bad housing conditions. The investigators are convinced that many cases of tuberculosis in these districts were brought about solely because of a continued residence under bad housing conditions. A summary of causes in the order of their importance shows bad housing in 249 cases, 61.4 per cent.; previ-

ous diseases in 105 cases, 25.3 per cent.; excesses, 101 cases, 24.9 per cent.; repeated contacts, 75 cases, 18.1 per cent.; faulty food supply, 63 cases, 15.2 per cent.; exhaustion, 58 cases, 11.6 per cent.; occupation, 31 cases, 7.5 per cent.; lack of recreation, 19 cases, 4.6 per cent.; two or more causes, 221 cases, 53.3 per cent.

This study indicates bad housing as the greatest predisposing cause of tuberculosis. The injustice of the city toward those people who are forced to live under such conditions is manifest.

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### Obituary.

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#### THOMAS FRANCIS HARRINGTON, M.D.

DR. THOMAS F. HARRINGTON, deputy commissioner of the State Board of Labor and Industries, died at his home in Boston, January 19, 1919, after a few weeks' illness from ptomaine poisoning. He was formerly director of school hygiene in the Boston schools.

Dr. Harrington was born in Lowell on June 10, 1866, and attended the Lowell High School. He was graduated from the Harvard Medical School in 1888, and continued his studies for a year in Europe. He served later as house officer at the Massachusetts General Hospital, after which he established a medical practice in Lowell. He served as chairman of the Lowell Board of Health for several years and originated the idea of wetting down the pavements during hot weather.

In 1894 he was made secretary of the United States Pension Board and in 1907 he was appointed director of physical training and athletics in the Boston public schools. Throughout his régime in this capacity, Dr. Harrington worked with the idea that hygienic physical culture was what children need rather than building up muscle. Later he was elected president of the Boston Playground Association. In 1910 he attended the International School Hygiene Congress in Paris. In the same year he was appointed physician-in-chief of St. Elizabeth's Hospital, then on East Brookline street. In 1913 he was chosen a delegate from the United States to the Seventeenth International Congress of Medicine, held in London.

In May, 1915, Dr. Harrington was selected as deputy health commissioner by the State Board of Labor and Industries, from forty applicants.

Two years ago he was appointed on the medical staff of the new State Guard by former Governor McCall. He became known to Harvard graduates through his "History of the Harvard Medical School," which was edited by the late Dr. J. G. Mumford and published by the Lewis Publishing Company in 1905. He was formerly vice president of the Harvard Medical Alumni Association. In 1908 he was orator of the Massachusetts Medical Society. He was a member of the American Medical Association, National Association for the Relief and Control of Tuberculosis, Harvard Medical Alumni Association and the Massachusetts Association of Boards of Health. He leaves a wife and three sons.

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#### ROBERT VALENTINE SAWIN, M.D.

DR. ROBERT V. SAWIN, of Brimfield, died at the home of his daughter in Storrs, Ct., January 19, 1919, of Bright's Disease, after an illness of eight months.

He was born in Worcester July 13, 1856, and was educated in the Worcester schools and Amherst College, where he was graduated in 1881. His medical degree was taken at the Jefferson Medical College, Philadelphia, in 1885; in 1887 he married Miss Lettie Washburn of Brockton and settled in Brimfield. He had a large practice in this town and in Holland, Wales, and Union, Ct. Among the positions Dr. Sawin held were: member of the school committee for 31 years, trustee of the Hitchcock Academy for 26 years, member of the staff of the Wing Memorial Hospital, Palmer; chairman of the overseers of the poor, 16 years; and chairman of the trustees of the Brimfield public library, 14 years. He joined the Massachusetts Medical Society in 1892, was a member of the American Medical Association, a Mason of high degree, a Knight Templar and a Shriner. Besides his daughter, he is survived by a son, recently returned from service at Camp Greenleaf, Ga. His wife died in 1912.

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#### FREDERIC WESTON TAYLOR, M.D.

DR. FREDERIC WESTON TAYLOR, a practising physician of Cambridge, died suddenly January 21, 1919, of heart disease, at his home, 1735 Massachusetts avenue.



Dr. Taylor was a native of East Cambridge, where he was born June 22, 1856. He was the son of Dr. John B. Taylor, who was one of the old practitioners of that section. The son was graduated from Harvard College in the class of '78, and from the Harvard Medical School in 1882. He served as a house officer at the Massachusetts General Hospital and then went to Europe, where he devoted another year to studying at some of the leading medical centres. On his return to this country he began practice in Cambridge in the early eighties.

He was a member of the North Congregational church and had been senior deacon for a number of years. He was allied with the various medical societies, national, state and county, but belonged to no social organization. From 1892 to 1900 he was a member of the Cambridge school board; he was a visiting physician to the Cambridge Hospital; since 1913 he had been a member of the important committee on membership and finance of the Massachusetts Medical Society, and was a vice-president of that organization. He is survived by his wife, who was Charlotte I. Houghton of Cambridge, to whom he was married in 1890; and three children—two sons, Dr. John H. Taylor of the U. S. A. Medical Corps, at present stationed at Camp Shelby, Miss.; and Lieut. Warren O. Taylor of the Quartermaster Corps, stationed in France—and a daughter, Miss Martha Taylor.

### Miscellany.

#### RÉSUMÉ OF COMMUNICABLE DISEASES FOR DECEMBER, 1918.

*General Prevalence.* The total number of cases reported for the month of December was 46,878, 42,018 of which were influenza cases, leaving a balance of 4,860 for the diseases usually reported.

*Influenza.* A continuation and recrudescence of the pandemic has affected all parts of the State during the month. Estimating the virulence of the infection by death returns and the calls for assistance, it becomes plain that the outbreak is of less intensity.

*Lobar Pneumonia* was reported in 1,202 cases, an increase of 586 cases over November. Many of these reported lobar pneumonias were, without doubt, of influenzal origin.

*Diphtheria* for December showed a slight increase over the preceding month, the total number of cases reported in December was 584 as compared with 532 for November.

*Scarlet Fever.* The number of cases reported for the month of December was 393 cases, an increase of 106 cases over 287 reported in November.

*Measles* showed an increase of 167 cases for December, 346 cases being reported as compared with 179 for November.

*Typhoid Fever* showed a decrease in number of reported cases, as 44 cases were reported in December, while in November 48 cases were reported.

*Veneral Diseases* continue to be steadily reported. There were 645 cases of gonorrhea reported and 273 cases of syphilis. These figures do not by any means reflect the true picture.

*Whooping Cough* was reported in 217 instances in December; 216 cases were reported in November.

*Outbreaks.* There has been no outbreak during the month other than the recrudescence of influenza. The incidence of the disease has been scattered throughout the State, with no city or town markedly exceeding its endemic index.

#### RARE DISEASES.

*Anterior Poliomyelitis* was reported from Chelsea, 1; Haverhill, 1; Topsfield, 1; total, 3.

*Dog-bite requiring anti-rabic treatment* was reported from Lawrence, 1.

*Dysentery* was reported from Lawrence, 1.

*Epidemic Cerebrospinal Meningitis* was reported from Arlington, 1; Boston, 4; Brookline, 1; Cambridge, 2; Camp Devens, 2; Fall River, 1; Great Barrington, 2; Haverhill, 1; Malden, 1; Newton, 1; Northboro, 1; Salem, 2; Westfield, 1; Winthrop, 1; total, 21.

*Malaria* was reported from Boston, 1; Camp Devens, 1; Springfield, 1; total, 3.

*Septic Sore Throat* was reported from Boston, 2; Brookline, 1; Fall River, 3; Haverhill, 2; Salem, 1; Winchendon, 1; total, 10.

*Tetanus* was reported from Gloucester, 1; Wakefield, 1; total, 2.

*Trachoma* was reported from Boston, 5; Chelsea, 1; Gloucester, 1; Somerville, 1; Watertown, 1; total, 9.

*Occupational Diseases* reported by the State Board of Labor and Industries: Disease, dermatitis; occupation, hog killer; locality, Somerville; sex, male; age, 36; color, white.

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## NOTICES.

UNITED STATES CIVIL SERVICE EXAMINATIONS.  
MEDICAL INTERNE, ST. ELIZABETH'S HOSPITAL.

March 12, April 9, and May 7, 1919.

The United States Civil Service Commission announces open competitive examinations for medical interne, for both men and women, on the dates stated above, at the usual places of examination. A vacancy in Saint Elizabeth's Hospital, Washington, D. C., at \$900 a year, and future vacancies requiring similar qualifications, at this or higher or lower salaries, will be filled from these examinations, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer or promotion.

The positions are tenable for one year, and pay \$75 a month and maintenance. During the year, however, a postgraduate course in mental and neurological diagnostic methods is given, an examination is held, and promotions to the next grade, junior assistant physician, are made. Beyond this there is regular advancement for men whose services are satisfactory. Saint Elizabeth's Hospital has over 3,000 patients and about 800 employees to care for. In addition to the general medical practice offered, the scientific opportunities in neurology and psychiatry are unsurpassed.

Applicants must show that they are graduates of a reputable medical college or that they are senior students in such an institution, and expect to graduate within six months from the date of this examination. The names of senior students will not be certified for appointment in the event they attain eligibility in the examination until they have furnished proof of actual graduation.

Applicants must not have graduated previous to the year 1915 unless they have been continuously engaged in hospital, laboratory or research work along the lines of neurology or psychiatry since graduation, which fact must be specifically shown in the application.

Applicants must be unmarried.

Age, 20 years or over on the date of the examination.

No sample questions of these examinations will be furnished.

Applicants must submit to the examiner on the day of the examination, their photographs, taken within two years, securely pasted in the space provided on the admission cards sent them after their applications are filed. Proofs or group photographs will not be accepted.

These examinations are open to all citizens of the United States who meet the requirements.

Applicants should at once apply for Form 1312, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C., or to the Secretary of the United States Civil Service Board at any city where such examinations are held. Applications should be properly executed, excluding the medical and county officer's certificates, and filed with the Commission at Washington in time to arrange for the examination at the place selected by the applicant. The exact title of the examination, as given at the head of this announcement, should be stated in the application.

## DENTAL INTERNE (MALE).

March 12, April 9, and May 7, 1919.

The United States Civil Service Commission announces open competitive examinations for dental interne, for men only, on the dates stated above, at the usual places of examination. Vacancies in Saint Elizabeth's Hospital, Washington, D. C., at \$800 a year, with maintenance, and in positions requiring similar qualifications at this or higher or lower entrance salaries, will be filled from these examinations, unless it is found in the interest of the service to

fill any vacancy by reinstatement, transfer, or promotion.

The department states that it reserves the right to terminate the appointment at the expiration of one year of service if it is deemed advisable to do so.

In addition to many interesting cases presented, the dental interne is given an excellent opportunity for study and for doing experimental and research work in the pathological, histological and other laboratories of the institution.

Applicants are required to be graduates or senior students of regularly incorporated dental colleges, and applications will not be accepted from persons who have graduated for more than two years. The names of senior students will not be certified for appointment until they have furnished proof of actual graduation.

Statements as to training and experience are accepted subject to verification.

Applicants must be unmarried.

Age, 20 years or over on date of examination.

No sample questions of these examinations will be furnished.

Applicants must submit to the examiner on the day of the examination, their photographs, taken within two years, securely pasted in the space provided on the admission cards sent them after their applications are filed. Tintypes or proofs will not be accepted.

These examinations are open to all male citizens of the United States who meet the requirements.

Applicants should at once apply for Form 1312, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C., or to the Secretary of the United States Civil Service Board in any city where such examinations are given. Applications should be properly executed, excluding the medical and county officer's certificates, and filed with the Commission at Washington in time to arrange for the examination at the place selected by the applicant. The exact title of the examination, as given at the head of this announcement, should be stated in the application form.

CLINICAL CHART OF RENAL DISEASES.—The Clinical Chart of Renal Diseases accompanying the article by Dr. H. S. Jellison, published in the issue of the JOURNAL for Jan. 2, 1919, has been reprinted in convenient form for the use of physicians and medical students, and may be had at the JOURNAL office for twenty-five cents a copy.

## SOCIETY NOTICE.

NEW ENGLAND PEDIATRIC SOCIETY.—The fifty-seventh meeting of the New England Pediatric Society will be held in the Lower Amphitheatre, Out-Patient Department, of the Massachusetts General Hospital, on Wednesday, Feb. 19, 1919, at 4.30 p.m.

Clinical cases will be presented by members of the Staff.

WILLIAM E. LADD, M.D., *President*,  
RICHARD M. SMITH, M.D., *Secretary*.

## RECENT DEATHS.

LIEUTENANT ADMONT HALSEY CLARK, M. C., died in Johns Hopkins Hospital on October 13, from pneumonia following influenza, at the age of thirty years. Dr. Clark had been assistant professor of pathology in Johns Hopkins University, resident pathologist in Johns Hopkins Hospital, and had done brilliant experimental work in pneumonia and diabetes.

MAJOR ALFRED REGINALD ALLEN has been killed in France. He was instructor in neurology in the University of Pennsylvania. Although a leading neurologist, Major Allen preferred to enter active infantry service.